

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—MR. MAX MÜLLER AND FETISHISM.

WHAT is the true place of Fetishism, to use a common but unscientific term, in the history of religious evolution ? Some theorists have made Fetishism, that is to say, the adoration of odds and ends (with which they have confused the worship of animals, of mountains, and even of the earth), the first moment in the development of worship. Others again think that Fetishism is "a corruption of religion, in Africa, as elsewhere". The latter is the opinion of Mr. Max Müller, who has stated it in his *Hibbert Lectures* on "The Origin and Growth of Religion, especially as illustrated by the Religions of India". It seems probable that there is a middle position between these two extremes. Students may hold that we hardly know enough to justify us in talking about the *origin* of religion, while at the same time they may believe that Fetishism is one of the earliest traceable steps by which men climbed to higher conceptions of the supernatural. Meanwhile Mr. Max Müller supports his own theory, that Fetishism is a "parasitical growth," a "corruption" of religion, by arguments mainly drawn from historical study of savage creeds, and from the ancient religious documents of India. These documents are to English investigators ignorant of Sanskrit "a book sealed with seven seals". The Vedas are interpreted in very different ways by different Oriental scholars. Mr. Max Müller's rendering is certain to have the first claim on English readers, and

therefore it is desirable to investigate the conclusions which he draws from his Vedic studies. The ordinary anthropologist must first, however, lodge a protest against the tendency to look for *primitive* matter in the Vedas. They are the elaborate hymns of a specially trained set of poets and philosophers, living in an age almost of civilisation. They can therefore contain little testimony as to what man while still "primitive" thought about God, the world and the soul. One might as well look for the first germs of religion, for *primitive* religion strictly so called, in the Good Friday articles of the *Daily Telegraph* as in the Vedas. It is chiefly, however, by way of deductions from the Vedas, that Mr. Max Müller arrives at ideas which may be briefly and broadly stated thus: he inclines to derive religion from man's sense of the Infinite, as awakened by natural objects calculated to stir that sense. Our position is, on the other hand, that the germs of the religious sense in early man are developed, not so much by the vision of the Infinite, as by the idea of Power. Early religions, in short, are selfish, not disinterested. The worshipper is not contemplative, so much as eager to gain something to his advantage. In fetishes, he ignorantly recognises something that possesses power of an abnormal sort, and the train of ideas which leads him to believe in and to treasure fetishes is one among the earliest springs of religious belief. Mr. Müller's opinion is the very reverse: he believes that a contemplative and disinterested emotion in the presence of the infinite, or of anything that suggests infinitude or is mistaken for the infinite, begets human religion, while of this religion Fetishism is a corruption.

In treating of Fetishism Mr. Müller is obliged to criticise the system of De Brosses, who introduced this rather unfortunate term to science, in an admirable work, *Le Culte des Dieux Fétiches* (1760). We call the work "admirable," because, considering the contemporary state of knowledge and speculation, De Brosses's book is brilliant, original, and only now and then rash or confused. Mr. Müller says that De Brosses "holds that all nations had to begin with fetishism, to be followed afterwards by polytheism and monotheism". This sentence would lead some readers to suppose that De Brosses, in his speculations, was looking for the origin of religion; but, in reality, his work is a mere attempt to explain a certain element in ancient religion and mythology. De Brosses was well aware that heathen religions were a complex mass, a concretion of many materials. He admits the existence of regard for the spirits of the dead as one factor, he gives Sabaeism a place as another. But what chiefly puzzles him, and what he chiefly tries to explain, is the worship of odds

and ends of rubbish, the adoration of animals, mountains, trees, the sun, and so forth. When he masses all these worships together, and proposes to call them all Fetishism (a term derived from the Portuguese word for a talisman), De Brosses is distinctly unscientific. But when he attempts to explain the animal worship of Egypt, and the respect paid by Greeks and Romans to shapeless stones, as survivals of older savage practices, De Brosses is distinctly scientific.

The position of De Brosses is this: Old mythology and religion are a tissue of many threads. Sabaeism, adoration of the dead, mythopœic fancy, have their part in the fabric. Among many tribes, a form of theism, Islamite or Christian, or self-developed, is superimposed on a mass of earlier superstitions. Among these superstitions, is the worship of animals and plants, and the cult of rough stones and of odds and ends of matter. What is the origin of this element, so prominent in the religion of Egypt, and present, if less conspicuous, in the most ancient temples of Greece? It is the survival, answers De Brosses, of ancient practices like those of untutored peoples, as Brazilians, Samoyedes, Negroes, whom the Egyptians and Pelasgians once resembled in lack of culture.

This, briefly stated, is the hypothesis of De Brosses. If he had possessed our wider information, he would have known that, among savage races, the worships of the stars, of the dead, and of plants and animals, are interlaced by the strange metaphysical processes of wild men. He would, perhaps, have kept the supernatural element in magical stones, feathers, shells, and so on, apart from the triple thread of Sabaeism, ghost-worship, and Totemism, with its later development into the regular worship of plants and animals. It must be recognised however, that De Brosses was perfectly well aware of the confused and manifold character of early religion. He had a clear view of the truth that what the religious instinct has once grasped, it does not, as a rule, abandon, but subordinates or disguises when it reaches higher ideas. And he avers, again and again, that men laid hold of the coarser and more material objects of worship, while they themselves were coarse and dull, and that, as civilisation advanced, they, as a rule, subordinated and disguised the ruder factors in their system. Here it is that Mr. Max Müller differs from De Brosses. He holds that the adoration of stones, feathers, shells, and (as I understand him) the worship of animals are, even among the races of Africa, a corruption of a higher religion, a "parasitical development" of religion.

However, Mr. Max Müller himself held "for a long time" what he calls "De Brosses's theory of fetishism". What made him throw the theory overboard? It was "the fact that, while

in the earliest accessible documents of religious thought we look in vain for any very clear traces of fetishism, they become more and more frequent everywhere in the later stages of religious development, and are certainly more visible in the later corruptions of the Indian religion, beginning with the *Ātharvana*, than in the earliest hymns of the Rig-Veda". Now, by the earliest documents of religious thought, Professor Max Müller means the hymns of the Rig-Veda. These hymns are composed in the most elaborate metre, by sages of old repute, who, I presume, occupied a position not unlike that of the singers and seers of Israel. They lived in an age of tolerably advanced cultivation. They had wide geographical knowledge. They had settled government. They had wealth of gold, of grain, and of domesticated animals. Among the metals, they were acquainted with that which, in most countries, has been the latest worked—they used iron poles in their chariots. How then can the hymns of the most enlightened singers of a race thus far developed, be called "the earliest religious documents"? Oldest they may be, but that is a very different thing. How can we possibly argue that what is absent in these hymns, is absent because it had not yet come into existence? Is it not the very office of *pii vates et Phœbo digna locuti* to purify religion, to cover up decently its rude shapes, as the unhewn stone was concealed in the fane of Apollo of Delos? If the race whose noblest and oldest extant hymns were pure, exhibits traces of fetishism in its later documents, may not that as easily result from a recrudescence as from a corruption? Professor Max Müller has still to explain how the process of corruption which introduced the same fetishistic practices among Samoyeds, Brazilians, Negroes and the people of the *Ātharvana* Veda came to be everywhere identical.

We have been occupied, perhaps, too long with De Brosses. Let us now examine, as shortly as possible, Mr. Max Müller's reasons for denying that Fetishism is "a primitive form of religion". The negative side of his argument being thus disposed of, it will then be our business to consider (1) his psychological theory of the subjective element in religion and (2) his account of the growth of Indian religion. The conclusion of the essay will be concerned with demonstrating that Mr. Max Müller's system assigns little or no place to the superstitious beliefs without which, in other countries than India, Society could not have come into organised existence.

In his polemic against Fetishism, it is not always very easy to see against whom Mr. Müller is contending. It is one thing to say that fetishism is a "primitive form of religion," and quite

another to say that it is "the very beginning of all religion". Occasionally he attacks the "Comtian theory," which, I think, is not now held by many people who study the history of man, and which I am not concerned to defend. He says that the Portuguese navigators who discovered among the negroes "no other trace of any religious worship" except what they called the worship of *feitiços*, concluded that this was the whole of the religion of the negroes (p. 61). Mr. Müller then goes on to prove that "no religion consists of fetishism only," choosing his example of higher elements in negro religion from the collections of Waitz. It is difficult to see what bearing this has on his argument. De Brosses (p. 20) shews that he, at least, was well aware that many negro tribes have higher conceptions of the Deity, than any which are implied in fetish-worship. Even if no tribe in the world is exclusively devoted to fetishes, the argument makes no progress. Perhaps no tribe is in the way of using unpolished stone weapons and no others, but it does not follow that unpolished stone weapons are not primitive. It is just as easy to maintain that the purer ideas have, by this time, been reached by aid of the stepping stones of the grosser, as that the grosser are the corruption of the purer. Mr. Max Müller constantly asserts that the "human mind advanced by small and timid steps from what is intelligible, to what is at first sight almost beyond comprehension" (p. 126). Among the objects which aided man to take these small and timid steps, he reckons rivers and trees, which excited, he says, religious awe. What he will not suppose is that the earliest small and timid steps were not unaided by such objects as the fetishist treasures—stones, shells, and so forth, which suggest no idea of infinity. Stocks he will admit, but not, if he can help it, stones, of the sort that negroes and Kanekas and other tribes use as fetishes. The reason is, that he cannot see how the scraps of the fetishist can appeal to the feeling of the Infinite, which feeling is, in his theory, the basis of religion.

After maintaining (what is readily granted) that negroes have a religion composed of many elements, Mr. Müller tries to discredit the evidence about the creeds of savages, and discourses on the many minute shades of progress which exist among tribes too often lumped together as if they were all in the same condition. Here he will have all students of savage life on his side. It remains true, however, that certain elements of savage practice, fetishism being one of them, are practically ubiquitous. Thus, when Mr. Müller speaks of "the influence of public opinion" in biassing the narrative of travellers, we must not forget that the strongest evidence about savage practice is derived from the "undesigned coincidence" of testimony.

" Illiterate men, ignorant of the writings of each other, bring the same reports from various quarters of the globe," wrote Millar of Glasgow. When sailors, merchants, missionaries describe, as matters unprecedented and unheard of, such institutions as polyandry, totemism, and so forth, the evidence is so strong, because the witnesses are so astonished. They do not know that any one but themselves has ever noticed the curious facts before their eyes. And when Mr. Müller tries to make the testimony about savage faith still more untrustworthy, by talking of the "absence of recognised authority among savages," do not let us forget that custom (*vómos*) is a recognised authority, and that the punishment of death is inflicted for transgression of certain rules. These rules, generally speaking, are of a religious nature, and the religion to which they testify, is of the sort known (too vaguely) as "fetishistic". Let us keep steadily before our minds, when people talk of lack of evidence, that we have two of the strongest sorts of evidence in the world for the kind of religion which least suits Mr. Müller's argument—(1) the undesigned coincidence of testimony, (2) the irrefutable witness of elementary criminal law. Mr. Müller's own evidence is that much-disputed work, where "all men see what they want to see, as in the clouds," and where many see systematised fetishism,—the Veda.

The first step in Mr. Max Müller's polemic, was the assertion that Fetishism is nowhere unmixed. We have seen that the fact is capable of an interpretation that will suit either side. Stages of culture overlap each other. The second step in his polemic was the effort to damage the evidence. We have seen that we have as good evidence as can be desired. In the third place he asks, What are the antecedents of fetish worship? He appears to conceive himself to be arguing with persons (p. 127) who "have taken for granted that every human being was miraculously endowed with the concept of what forms the predicate of every fetish, call it power, spirit, or god". If there are reasoners so feeble, they must be left to the punishment inflicted by Mr. Müller. On the other hand, students who regard the growth of the idea of power, which is the predicate of every fetish, as a slow process, as the result of various impressions and trains of early half conscious reasoning, cannot be disposed of by the charge that they think that "every human being was miraculously endowed" with any concept whatever. They, at least, will agree with Mr. Max Müller that there are fetishes and fetishes, that to one reverence is assigned for one reason, to another for another. Unfortunately, it is less easy to admit that Mr. Max Müller has been happy in his choice of ancient instances. He writes (p. 99): "Sometimes a stock or a stone was worshipped

because it was a forsaken altar or an ancient place of judgment, sometimes because it marked the place of a great battle or a murder, or the burial of a king." Here he refers to Pausanias, Book I. 28, 5, and VIII. 13, 3.¹ In both of these passages, Pausanias mentions stones—in the first passage stones on which men stood ὅσοι δίκας ἵπέχουσι καὶ οἱ διώκοντες, in the second, barrows heaped up in honour of men who fell in battle. In neither case, however, do I find anything to shew that the stones were worshipped. These stones have no more to do with the argument than the milestones which certainly do exist on the Dover road, but which are not the objects of superstitious reverence. No! the fetish stones of Greece were those which occupied the holy of holies of the most ancient temples, the mysterious fanes within dark cedar or cypress groves, to which men were hardly admitted. They were the stones and blocks which bore the names of gods, Hera, or Apollo, names which were given, as De Brosses says, to the old fetishistic objects of worship, *after* the anthropomorphic gods entered Hellas. This, at least, is the natural conclusion from the fact that the Apollo and Hera of untouched wood or stone were confessedly the *oldest*. Religion, possessing an old fetish, did not run the risk of breaking the run of luck by discarding it, but wisely retained and renamed it. Mr. Max Müller says that the unhewn lump may indicate a higher power of abstraction than the worship paid to the work of Phidias; but in that case all the savage adorers of rough stones *may* be in a stage of more abstract thought than these contemporaries of Phidias who had such very hard work to make Greek thought abstract.

Mr. Müller finds a very curious argument on what he calls "the ubiquity of fetishism". Like De Brosses, he compiles (from Pausanias) a list of the rude stones worshipped by the early Greeks. He mentions various examples of fetishistic superstitions in Rome. He detects the fetishism of popular Catholicism, and of Russian orthodoxy among the peasants. Here, he cries, in religions the history of which is known to us, fetishism is secondary, "and why should fetishes in Africa, where we do not know the earlier development of religion, be considered as primary"? What a singular argument! According to Pausanias, this fetishism (if fetishism it is) *was* primary, in Greece. The *oldest* temples, in their holiest place, held the fetish. In Rome, it is at least probable that fetishism, as in Greece, was partly a survival, partly a new growth from the primal root of human superstitions. As to Catholicism, the

¹A third reference to Pausanias, I have been unable to verify. There are several references to Greek fetish stones in Theophrastus's account of the Superstitious Man.

records of Councils, the invectives of the Church, shew us that, from the beginning, the secondary religion in point of time, the religion of the Church, laboured vainly to suppress, and had in part to tolerate, the primary religion of childish superstitions. The documents are before the world. As to the Russians, the history of their conversion is pretty well known. Jaroslaf, or Vladimir, or some other evangelist, had whole villages baptised in groups, and the pagan peasants naturally kept up their semi-savage ways of thought and worship, under the thinnest varnish of orthodoxy. In all Mr. Max Müller's examples, then, fetishism turns out to be *primary* in point of time; *secondary* only, as subordinate to some later development, or lately superimposed religion. Accepting his statement that fetishism is ubiquitous, we have the most powerful *a priori* argument that it is primitive. As religions become developed they are differentiated: it is only fetishism that you find everywhere. Thus the bow and arrow have a wide range of distribution; the musket, one not so wide; the Martini-Henry rifle, a still narrower range: it is the primitive stone weapons that are ubiquitous, that are found in the soil of England, Egypt, America, France, Greece, as in the hands of Dieyries and Admiralty Islanders. And just as rough stone knives are earlier than iron ones (though the same race often uses both), so fetishism is more primitive than higher and purer faiths, though the same race often combines fetishism and theism. No one will doubt the truth of this where weapons are concerned; but Mr. Max Müller will not look at religion in this way.

Mr. Max Muller's remarks on "Zoolatry," as De Brosses calls it, or animal worship, require only the briefest comment. De Brosses, very unluckily, confused zoolatry with other superstitions under the head of Fetishism. This was unscientific; but is it scientific of Mr. Max Müller to discuss animal worship without reference to Totemism? The worship of sacred animals is found, in every part of the globe, to be part of the sanction of the most stringent and important of all laws, the laws of marriage. It is a historical truth that the society of Ashantees, Choctaws, Australians, is actually constructed by the operation of laws which are under the sanction of various sacred plants and animals. There is scarcely a race so barbarous that these laws are not traceable at work in its society, nor a people (especially an ancient people) so cultivated that its laws and religion are not full of strange facts most easily explained as relics of totemism. Now note that actual living totemism is always combined with the rudest ideas of marriage, with almost repulsive ideas about the family. Presumably, this rudeness is earlier than culture, and therefore this form of animal worship

is one of the earliest religions that we know. The almost limitless distribution of the phenomena, their regular development, their gradual disappearance, all point to the fact that they are everywhere produced by similar causes.

Of all these facts, Mr. Max Müller only mentions one—that many races have called themselves Snakes, and he thinks they might naturally adopt the snake for ancestor, and finally for god. He quotes the remark of Diodorus that “the snake may either have been made a god because he was figured on the banners, or may have been figured on the banners because he was a god”; to which De Brosses, with his usual sense, rejoins—“we represent saints on our banners because we revere them, we do not revere them because we represent them on our banners.”

In a discussion about origins, and about the corruption of religion, it would have been well to account for institutions and beliefs almost universally distributed. We know, what De Brosses did not, that zoolatry is inextricably blent with laws and customs which surely must be early, if not primitive, because they make the working faith of societies in which male descent and the Family are not yet established. Any one who wishes to prove that this sort of society is a late corruption, not an early stage in evolution towards better things, has a difficult task before him, which, however, he must undertake, before he can prove zoolatry to be a corruption of religion.

As to the worship of ancestral and embodied human spirits, which (it has been so plausibly argued) is the first moment in religion, Mr. Max Müller dismisses it, here, in eleven lines and a half. An isolated but important allusion at the close of his lectures will be noticed in its place.

The end of the polemic against the primitiveness of fetishism deals with the question, “Whence comes the supernatural predicate of the fetish”? If a negro tells us his fetish is a god, whence got he the idea of “god”? Many obvious answers occur. Mr. Müller says, speaking of the Indians (p. 205): “The concept of *gods* was no doubt growing up, while men were assuming a more and more definite attitude towards these semi-tangible and intangible objects”—trees, rivers, hills, the sky, the sun, and so on which he thinks suggested and developed, by aid of a kind of awe, the religious feeling of the infinite. We too would say that, among people who adore fetishes and ghosts, the concept of gods no doubt silently grew up, as men assumed a more and more definite attitude towards those tangible and intangible objects. Again, negroes have had the idea of god imported among them by Christians and Islamites, so that, even if they did not climb (as De Brosses grants that many of them

do) to purer religious ideas unaided, these ideas are now familiar to them, and may well be used by them, when they have to explain a fetish to a European. Mr. Max Müller explains the origin of religion by a term ("the Infinite") which, he admits, the early people would not have comprehended. The negro, if he tells a white man that a fetish is a god, transposes terms in the same unscientific way. Mr. Müller asks, "How do these people, when they have picked up their stone or their shell, pick up, at the same time, the concepts of a supernatural power, of spirit, of god, and of worship paid to some unseen being"? But who says that men picked up these ideas *at the same time*? These ideas were evolved by a long, slow, complicated process. It is not at all impossible that the idea of a kind of "luck" attached to this or that object, was evolved by dint of meditating on a mere series of lucky accidents. Such or such a man, having found such an object, succeeded in hunting, fishing, or war. By degrees, similar objects might be believed to command success. Thus burglars carry bits of coal in their pockets, "for luck". This random way of connecting causes and effects which have really no inter-relation, is a common error of early reasoning. Mr. Max Müller says that "this process of reasoning is far more in accordance with modern thought"; if so, modern thought has little to be proud of. But there are many other practical ways in which the idea of supernatural power is attached to fetishes. Some fetish stones have a superficial resemblance to other objects, and thus (on the magical system of reasoning) are thought to influence these objects. Others, again, are pointed out as worthy of regard in dreams or by the ghosts of the dead.¹ To hold these views of the origin of the supernatural predicate of fetishes is not "to take for granted that every human being was miraculously endowed with the concept of what forms the predicate of every fetish".

Thus we need not be convinced by Mr. Max Müller that fetishism (though it necessarily has its antecedents in the human mind) is "a corruption of religion". It still appears to be one of the most primitive steps towards the idea of the supernatural.

What, then, is the subjective element of religion in man? How is he capable of conceiving of the supernatural? What outward

¹ Here I may mention a case illustrating the motives of the fetish-worshipper. My friend, Mr J. J. Atkinson, who has for many years studied the manners of the people of New Caledonia, asked a native *why* he treasured a certain fetish-stone. The man replied that, in one of the vigils which are practised beside the corpses of deceased friends, he saw a lizard. The lizard is a totem, a worshipful animal in New Caledonia. The native put out his hand to touch it, when it disappeared and left a stone in its place. This stone he therefore held sacred in the highest degree. Here then a fetish stone was indicated as such by a spirit in form of a lizard.

objects first awoke that dormant faculty in his breast ? Mr. Max Müller answers, that man has "the faculty of apprehending the infinite"—that by dint of this faculty he is capable of religion and that sensible objects, "tangible, semi-tangible, intangible," first roused the faculty to religious activity, at least among the natives of India. He means, however, by the "infinite" which savages apprehend, not our metaphysical conception of the infinite, but the mere impression that there is "something beyond". "Every thing of which his senses cannot perceive a limit, is to a primitive savage or to any man in an early stage of intellectual activity *unlimited or infinite*." Thus, in all experience, the idea of "a beyond" is forced on men. If Mr. Max Müller would adhere to this theory, then we should suppose him to mean (what we hold to be more or less true) that savage religion, like savage science, is merely a fanciful explanation of what lies beyond the verge of experience. For example, if the Australians mentioned by Mr. Max Müller believe in a being who created the world, a being whom they do not worship, and to whom they pay no regard, their theory is scientific, not religious. They have looked for the causes of things, and are no more religious (in so doing) than Newton was when he worked out his theory of gravitation. The term "infinite" is wrongly applied, because it is a term of advanced thought used in explanation of the ideas of men who, Mr. Max Müller says, were incapable of conceiving the meaning of such a term. Again, it is wrongly applied, because it has some modern religious associations, which are covertly and mischievously introduced to explain the supposed emotions of early men. Thus, Mr. Müller says (p. 177)—he is giving his account of the material things that awoke the religious faculty—"the mere sight of the torrent or the stream would have been enough to call forth in the hearts of the early dwellers on the earth . . . a feeling that they were surrounded on all sides by powers invisible, infinite, or divine". Here, if I understand Mr. Müller, "infinite" is used in our modern sense. The question is, How did men ever come to believe in powers infinite, invisible, divine ? If Mr. Müller's words mean anything, they mean that a dormant feeling that there were such existences lay in the breast of man, and was wakened into active and conscious life, by the sight of a torrent or a stream. If this is not the expression of a theory of "innate religion" (a theory which Mr. Müller disclaims), it is capable of being mistaken for that doctrine by even a careful reader. The feeling of "powers, infinite, invisible, divine," *must* be in the heart, or the mere sight of a river could not call it forth. How did the feeling get into the heart ? That is the question.

The ordinary anthropologist distinguishes a multitude of

causes, a variety of processes, which shade into each other and gradually produce the belief in powers invisible, infinite, and divine. What tribe is unacquainted with dreams, visions, magic, the apparitions of the dead? Add to these the slow action of thought, the conjectural inferences, the guesses of crude metaphysics, the theories of isolated men of religious and speculative genius. By all these and other forces manifold, that emotion of awe in presence of the hills, the stars, the sea, is developed. Mr. Max Müller cuts the matter shorter. The early inhabitants of earth saw a river, and the "mere sight" of the torrent called forth the feelings which (to us) seem to demand ages of the operation of causes disregarded by Mr. Müller in his account of the origin of Indian religion.

The central spring of Mr. Müller's doctrine is his theory about "apprehending the infinite". Early religion, or at least that of India, was, in his view, the extension of an idea of Vastness, a disinterested emotion of awe. Elsewhere, we think, early religion has been a development of ideas of Force, an interested search, not for something wide and far and hard to conceive, but for something practically *strong* for good and evil. Mr. Müller (taking no count in this place of fetishes, ghosts, dreams and magic) explains that the sense of "wonderment" was wakened by objects only semi-tangible, trees, which are *taller* than we are, "whose roots are beyond our reach and which have a kind of life in them". "We are dealing with a quaternary, it may be a tertiary troglodyte," says Mr. Müller. If a tertiary Troglodyte was like a modern Andaman islander, a Kaneka, a Dieyrie, would he stand and meditate in awe on the fact that a tree was taller than he, or had a "kind of life," "an unknown and unknowable, yet undeniable something"? Why, this is the sentiment of modern Germany, and perhaps of the Indian sages of a cultivated period! A troglodyte would look for a 'possum in the tree, he would tap the trunk for honey, he would poke about in the bark after grubs. Does Mr. Müller really not see that he is transporting a kind of modern malady of thought into the midst of people who wanted to find a dinner, and who might worship a tree if it had a grotesque shape, that, for them, had a magical meaning, or if *boilyas* lived in its boughs, but whose practical way of dealing with the problem of its life was to burn it round the stem, chop the charred wood with stone axes, and use the bark, branches and leaves as they happened to come handy.

Mr. Müller has a long list of semi-tangible objects "overwhelming and overpowering," like the tree. There are mountains, where "even a stout heart shivers before the real presence of the infinite;" there are rivers, those instruments of so sudden a

religious awakening ; there is earth. These supply the material for semi-deities. Then come sky, stars, dawn, sun, and moon : "in these we have the germs of what, hereafter, we shall have to call by the name of deities".

Before we can transmute, with Mr. Müller, these objects of a somewhat vague religious regard into a kind of gods, we have to adopt Noiré's philological theories, and study the effects of auxiliary verbs on the development of personifications and of religion. Noiré's philological theories are still, I presume, under discussion. They are necessary, however, to Mr. Müller's doctrine of the development of the vague "sense of the infinite" (wakened by fine old trees, and high mountains) into *devas*, and of *devas* (which means "shining ones") into the Vedic Gods. Our troglodyte ancestors, and their feeling for the spiritual aspect of landscape, are thus brought into relation with the Rishis of the Vedas, the sages and poets of a pleasing civilisation. The reverence felt for such comparatively refined or remote things, as fire, the sun, wind, thunder, the dawn, furnished a series of stepping-stones to the Vedic theology, if theology it can be called. It is impossible to give each step in detail ; the process must be studied in Mr. Müller's lectures. Nor can we discuss the later changes of faith. As to that which produced the fetishistic "corruption" (that universal and everywhere identical form of decay), Mr. Müller does not afford even a hint. He only says that, when the Indians found that their old gods were mere names, "they built out of the scattered bricks a new altar to the Unknown God"—a statement which throws no light on the parasitical development of Fetishism.

We have contested step by step, many of Mr. Müller's propositions. If space permitted, it would be interesting to examine the actual attitude of certain contemporary savages, Bushmen and others, to the sun. Contemporary savages may be degraded, they certainly are not primitive, but their legends, at least, are the oldest things they possess. The supernatural elements in their ideas about the sun are curiously unlike those which, according to Mr. Müller, entered into the development of Aryan religion.

The last remark which has to be made about Mr. Müller's scheme of the development of Aryan religion is that the religion does not apparently aid the growth of society, nor work with it in any way. Let us look at a sub-barbaric society—say that of Zulu-land, of New Zealand, of the Iroquois League, or a savage society like that of the Kanekas, or of those Australian tribes of whom Mr. Brough Smyth has furnished us with an interesting and copious account. If we begin with the Australians, we observe that society is based on certain laws of

marriage enforced by capital punishment. These laws of marriage forbid the intermixing of persons belonging to the stock which worships this or that animal, or plant. Now this rule, as already observed, made the "gentile" system, (as Mr. Morgan erroneously calls it), the system which gradually reduces tribal hostility, by making tribes homogeneous. The system (with the religious sanction of a kind of zoolatry) is in force in Africa, America, and Australia, while a host of minute facts make it a reasonable conclusion that it prevailed in Asia and Europe. Among these facts certain peculiarities of Greek and Roman and Hindoo marriage law, Greek, Latin, and English tribal names, and a crowd of legends are the most prominent. Mr. Max Müller's doctrine of the development of Indian religion (while admitting the existence of Snake or Naga tribes) takes no account of the action of this universal zoolatry on society.

After marriage and after tribal institutions, look at *rank*. Is it not obvious that the religious elements left out of his reckoning by Mr. Müller are most powerful in developing rank? Even among those democratic paupers, the Fuegians, "the doctor-wizard of each party has much influence over his companions". Among those other democrats, the Eskimo, a class of wizards, called Angakuts, become "a kind of civil magistrates," because they can cause fine weather, and can magically detect people who commit offences. Thus the germs of rank, in these cases, are sown by the magic which is the practical working of Fetishism. Try the Zulus: "the heaven is the chief's," he can call up clouds and storms, hence the sanction of his authority. In New Zealand, every Rangatira has a supernatural power. If he touches an article, no one else dares to appropriate it, for fear of terrible supernatural consequences. A head chief is "tauped an inch thick, and perfectly unapproachable". Magical power abides in and emanates from him. By this superstition, an aristocracy is formed, and property (the property, at least, of the aristocracy) is secured. Among the Red Indians, as Schoolcraft says, "priests and jugglers are the persons that make war and have a voice in the sale of the land". Mr. E. W. Robertson says much the same thing about early Scotland. If Odin was not a medicine-man, and did not owe his chiefship to his talent for dealing with magic, he is greatly maligned. The Irish Brehons sanctioned legal decisions by magical devices, afterwards condemned by the Church. Among the Zulus, "the *Itongo* (spirit) dwells with the great man; he who dreams is the chief of the village". The chief alone can "read in the vessel of divination". The Kaneka chiefs are medicine-men.

Here then, in widely distributed regions, in early European, American, Melanesian, African societies, we find those factors in

religion which the primitive Aryans dispensed with, helping to construct society, rank, property. Is it necessary to add that the ancestral spirits still "rule the present from the past," and demand sacrifice, and speak to "him who dreams," who, therefore, is a strong force in society, if not a chief? Mr. Herbert Spencer, Mr. Tylor, M. Fustel de Coulanges, a dozen others, have made all this matter of common notoriety. As Hearne the traveller says about the Copper River Indians, "it is almost necessary that they who rule them should profess something a little supernatural to enable them to deal with the people". The few examples we have given show how widely, and among what untutored races, the need is felt. The rudimentary government of early peoples requires, and by aid of dreams, necromancy, "medicine" (*i.e.*, fetishes), *tapu*, and so forth, obtains a supernatural sanction.

Where is the supernatural sanction that consecrated the chiefs of a race which woke to the sense of the existence of infinite beings, in face of trees, rivers, the dawn, the sun, and had none of the so-called late and corrupt fetishism that does such useful social work?

To the student of other early societies, Mr. Müller's theory of the growth of Aryan religion seems to leave society without cement, and without the most necessary sanctions. One man is as good as another, before a tree, a river, a hill. The savage organisers of other societies found out fetishes and ghosts that were "respecters of persons". Zoolatry is intertwined with the earliest and most widespread law of prohibited degree. How did the Hindoos dispense with the aid of these superstitions? Well, they did not quite dispense with them. Mr. Max Müller remarks, almost on his last page (376), that "in India also . . . the thoughts and feelings about those whom death had separated from us for a time, supplied some of the earliest and most important elements of religion". If this was the case, surely the presence of those elements and their influence should have been indicated along with the remarks about the awfulness of trees and the suggestiveness of rivers. Is nothing said about the spirits of the dead and their cult in the Vedas? Then other elements of savage religion may also have been neglected there, and it will be impossible to argue that Fetishism did not exist because it is not mentioned.

The perusal of Mr. Max Müller's book deeply impresses one with the necessity of studying early religions and early societies simultaneously. If it be true that early Indian religion lacked precisely those superstitions, so childish, so grotesque, and yet so useful, which we find at work in contemporary tribes, and which we read of in history, the discovery is even more

remarkable and important than the author of the *Hibbert Lectures* seems to suppose. It is scarcely necessary to repeat that the negative evidence of the Vedas, the religious utterances of sages, made in a time of what we might call "heroic culture," can never disprove the existence of superstitions which, whether current or not in the former experience of the race, the hymnists might naturally ignore. Our object has been to defend the "primitiveness of fetishism". By this we do not mean to express any opinion as to whether Fetishism (in the strictest sense of the word) was or was not earlier than Totemism, the worship of the dead, or even the involuntary sense of awe and terror with which certain vast phenomena may have affected the earliest men. We only claim for the powerful and ubiquitous practices of fetishism a place *among* the early elements of religion, and insist that what is so universal has not yet been shown to be "a corruption" of something older and purer.

One remark of Mr. Max Müller's fortifies these opinions. If Fetishism be indeed one of the earliest factors of faith in the supernatural, if it be, in its rudest forms, most powerful in proportion to other elements of faith among the least cultivated races (and that Mr. Müller will probably allow),—among what class of cultivated peoples will it longest hold its ground? Clearly, among the least cultivated, among the fishermen, the shepherds of lonely districts, the peasants of outlying lands—in short, among the *people*. Neglected by sacred poets in the culminating period of purity in religion, it will linger among the superstitions of the rustics. There is no real break in the continuity of peasant life; the modern folk-lore is (in many points) the savage ritual. If any one will compare Mr. Brough Smyth's accounts of the superstitions of Australian black fellows with those of French and Scotch peasants, he will see what I mean. Now Mr. Müller, when he was minimising the existence of fetishism in the Rig-Veda (the oldest collection of hymns) admitted its existence in the Atharvana (p. 60). On p. 151, we read "the Atharva-veda-Sanhita is a later collection, containing, besides a large number of Rig-Veda verses, *some curious relics of popular poetry connected with charms, imprecations, and other superstitious usages*". The italics are mine, and are meant to emphasise this fact:—When we leave the sages, and look at what is *popular*, look at what that class believed which of savage practice has everywhere retained so much, we are at once among the charms and the fetishes! This is precisely what one would have expected. If the history of religion and of mythology is to be unravelled, we must look to what the unprogressive classes in Europe have in common with Australians, and Bushmen and Andaman islanders. It is the

function of the people to retain these elements of religion, which it is the high duty of the sage and the poet to purify away in the fire of refining thought. It is for this very reason that *ritual* has (though Mr. Max Müller curiously says that it seems not to possess) an immense scientific interest. Ritual holds on, with the tenacity of superstition, to all that has ever been practised. Yet, when Mr. Müller wants to know about *origins*, about actual ancient *practice*, he deliberately turns to that "great collection of ancient poetry" (the Rig-Veda) "which has no special reference to sacrificial acts".

To sum up briefly:—(1) Mr. Müller's arguments against the evidence for, and the primitiveness of, Fetishism seem to demonstrate the opposite of that which he intends them to prove. (2) His own evidence for *primitive* practice is chosen from the documents of a *cultivated* society. (3) His theory deprives that society of the very influences which have elsewhere helped the Tribe, the Family, Rank and Priesthoods to grow up, and to form the backbone of social existence.

A. LANG.

II.—AN EMPIRICAL THEORY OF FREE WILL.

IN one sense, the beasts of the field and the fowls of the air are like us: for most of their lives they do less than they can. A horse runs faster and farther when he follows the hounds in full cry than when he careers about his paddock in spring: when two bulls fight for an heiifer one gives up when he is tired, but a bull in the bullring fights as long as he can: the hawk before he wears the jesses, while he flies unhooded where he will, chooses to stoop at smaller game than herons: and the fox journeys farther in a hour when the hounds have sighted him than in the state of nature he would journey in a day. All these have a store of force in their life to draw upon at their need, but of this force they have not the key which is kept by necessity and her vicar man.

Their ordinary activity does not seem to be free either. The need of food sets them in motion to seek it; if food is plentiful the attraction of it will keep them eating without hunger: the desire of sun or shelter or of water, the fear of enemies, or any thing which seems terrible because it is strange, will keep them on the move, and all this diversity of action takes so much from the storehouse of their life either profitably or unprofitably. The power so expended is no more theirs while they sleep than the power they are able to expend at their need is theirs when they are at ease. The same may be said of their activity when most

spontaneous and disinterested. A lamb frisks, a nightingale sings, a lark soars ; none debate whether to frisk, sing, soar, or be still, any more than a plant debates whether to flower, or a rose whether to blow, or a star whether to shine. Indeed it is less likely that such activity as this is conscious with some approach to human consciousness than that the activity which meets ordinary needs and desires or exceptional pressure is conscious. A hare that doubles, a fox that makes for a drain, must be taken to know what they are about : when Browning tells us of the wise thrush who sings each song twice over, one suspects poetical licence.

Now in man too we may trace the threefold activity of spontaneity, effort and response (so to name that sum of activity which includes all the actions prompted by an external stimulus or the need to make provision for an inward appetite). In man this threefold activity is far more abundant and complex, and in man the activity of spontaneity and effort may just as well be self-conscious as the activity of response.

It is the activity of response which in the main furnishes the observations upon which the thinkers rely who tell us that human actions are subject to law. It is the activity of effort and in a less degree the activity of spontaneity which support the traditional conception that in the conflict of desires and the storm of passions the rational will is sovereign and free, or, as an ancient thinker said more soberly, in the whirl of necessity man is but half a slave.

The tendency to avoid a mad bull or a cannon ball is one of the simplest cases of the activity of response and certainly there seems little freedom here. Again, a vigorous person instinctively returns a blow, a person less vigorous instinctively turns away : it is needless and preposterous to imagine that each calculates which is the most likely course to avoid being struck again or takes without calculation the course that experience suggests ; all the experience either needs to act is just so much as gives them the orderly use of their limbs. It is obvious that we can observe the tendencies of individuals or masses of men in this sphere of action and reach generalisations which are pretty accurate, as that a bargee will respond to a blow with his fist or perhaps with his boot while an Italian will respond with his knife, and a Hindoo if struck by an European will probably cower before the aggressor and perhaps call him his father or his mother. Observation will carry us farther. If a gentleman is assaulted when alone he will defend himself and perhaps punish the aggressor ; if a lady is with him he will see her safe and then settle with the aggressor with or without the help of the police. The late Mr. Keble when he came into a room was sure soon to

make his way to the bookcase "to see if there was anything about Bishop Wilson". Whatever may be said of the way in which Mr. Keble came to undertake his task, the effect of his preoccupation with it was something that could be observed and calculated upon.

Hitherto we have been dealing with the effects of instinct trained and untrained without finding anything to suggest the idea of freedom. It is idle to say of instinctive acts that we are free to do them or not as we wish: we do them at the time without wishing; we need have no imagination of some agreeable sensation to accompany the process or to follow upon its result. Even Mr. Keble did not ransack his friend's bookcases because he wished for the pleasure of seeing something to Bishop Wilson's honour: he never forgot his task and was always instinctively trying to further it, though of course he knew it was very unlikely that he would come upon anything relevant and much more unlikely that he would come upon anything he did not know before.

Nor do we get out of the sphere of observation and calculation when we come to what men do because they wish. Their wishes themselves seem to be facts which belong to the general order of the world. That a man grows up with a taste for wine is a fact like the fact that another grows up with a tendency to consumption. One woman is dressy as another is hysterical, one man is avaricious as another is greedy. It is premature in every case to inquire why those things are so; we do not know the general facts which would prepare us to recognise the individual facts without surprise or even to anticipate them. But when the individual facts are recognised they give rise to rational expectations of what a given person will do under given circumstances: for instance, one may come to be pretty sure on a few months' acquaintance that So and So will postpone a concert to a drinking bout at thirty, and a drinking bout to an important business appointment. Longer acquaintance may give rise to a shrewd suspicion that at fifty or soon after he will be liable to risk an appointment for a drinking bout, for experience shows that prolonged indulgence in drinking bouts tends to lower activity.

This takes us a step farther. We may observe the comparative strength of wishes. A man may like fruit and he may like wine, he may like marmalade and he may like tea, he may think also that wine spoils the taste of fruit and that marmalade spoils the taste of tea, and as he cannot have both the things he likes at once it is possible to observe which he likes best. Again, we may distinguish between the desire for a distant and permanent satisfaction, and the desire for a satisfaction so near that the prospect of it is importunate. To take an instance which is

common and creditable, a man may find he likes the prospect of an assured income better than the excitement of cultivating his literary gift even though it may be as considerable as Barry Cornwall's when its owner settled down to conveyancing. And it is still a matter of observation whether a man is naturally given to looking far ahead just as it is a matter of observation whether he is naturally longwinded or longsighted.

All calculations founded upon this kind of data are at best approximate. We cannot measure the strength of instincts and likings exactly, we seldom know all the circumstances which co-operate with them or thwart them. And we generally underrate the extent of the uncertainty because when we consider large numbers the error is reduced to a minimum. It is possible to ascertain within narrow limits how a given rise in the rate of wages, a given fall in the price of bread, will affect the marriage rate in a given country, though it is seldom safe to predict what rise in salary will seem enough to a given clerk to make it worth his while to marry. This affects our imagination as if the special facts which cannot be foreseen could be deduced from the general facts which can be foreseen if only we had an adequate calculus; just as if we knew exactly the mass of the whole ocean, the conformation of its bed, the strength and volume of its currents, as we know the force of gravitation of the sun and moon, we should need nothing more but a perfect calculus to predict the hour and height of a spring tide in any given creek. Of course this is an illusion: the height of the tidal wave in mid-ocean is not an average of its height in all the creeks of the coasts of that ocean. When we find a theory that is adapted to averages which does not meet individual cases, the fault is not merely in our inadequate means of applying the theory but in the inadequacy of the theory itself.

After we have made all that is to be made of instinct and desire and training and habit and circumstance, and the effect of the remembered and unremembered consequences of action, we are only half way to understanding what people will do though we are often much more than half way to giving a plausible detailed account of why they did what they did. If we assume that more knowledge of detail would make both explanations decisive and complete, this is because we assume that "the law of causality" (or whatever we call it) extends to all actions and thoughts of men, and this we assume because such knowledge as we have explains so much, and because "the law of causality" plainly extends to everything else.¹ It will now be well to turn

¹ Supposing experience to show that people with any rallying power will recover if properly prayed for as they will recover if properly treated, or that litanies are as effectual in bringing rain as the discharge of heavy guns, neither fact would be any exception to "the law of causality".

to the other side and begin by the consideration of some of the simpler cases where the conception of "motive" seems more or less inapplicable or inadequate. A man may take his daily walk simply as a matter of habit, and then arises the question what motives if any he had for forming the habit. Again, he may walk because he wishes to get to another place for business or pleasure, or because he wants to work off a fit of moroseness or worry, or because he knows it is a necessary precaution against his dinner disagreeing with him, or again because he expects positive pleasure from the quickening of his circulation. Each of these is a definite intelligible motive; but what are we to say of a man who walks because he is a good walker, because the accumulated energy of a well-nourished trunk and limbs presses for discharge. If his occupation confine him much indoors he is likely to be aware of the pressure, but the pressure does not act through his knowledge of it, as other motives do. When he acts on them he is made aware of his relation to other beings and of the limitations of his own being; but when he acts upon his own inward impulse coming into consciousness with no trace of the conditions under which it matured, fulfilling itself unchecked, he feels himself free all the more if, as seems probable, the impulse just after coming into consciousness encounters and surmounts at once the check of a momentary hesitation.

Take another instance. If a man likes cherries and walks where the ripe cherries hang in easy reach, the motion of hand and lip seems nearly as mechanical as the movement of the idle arm that keeps time with the lazy swing of his legs, though of course this last is unattended by desire and unguided by sensation. But now consider a man with the same liking for cherries getting up and going out to gather and eat. Shall we still say, as we might very well have said before, that his liking for cherries is an adequate motive for his action if a motive is wanted? Hardly: his action is no longer mechanical, he has taken a resolution though a small one. His liking for cherries has been reinforced from the same central store of energy as set our disinterested pedestrian in motion. It is the coming in of this fresh factor that reproach or self-reproach naturally fastens upon. If the censor says "Cherries are so bad for you" or "You are always eating cherries," it is a defence especially to the second indictment to say "It is my nature to be fond of them"; but still the censor has the last word "You need not have gone out on purpose".

In fact, he would not have gone out if his central store of energy had been fully taxed just then by a severe fit of toothache or a stiff game of chess. While it was taxed (if the pain was sharp enough or the game stiff enough) he had no consciousness

of freedom: when he forecast the consequences of two alternative moves with strained attention as far ahead as he could see and then chose the one that was most hopeful or least objectionable, his choice, if we like to say so, was determined by the prospect as the poise of a balance is determined by the weights. But perhaps the game after one or two exciting crises got dull as the board grew clear and both players got tired of it and left off. At once they were free as they were before they sat down, for by the hypothesis what the game exhausted was not the general store of energy of their lives that day but their specialised energy as trained chess players: while this lasts it is very likely strong enough to take up all the general energy they consciously possess at the time when it is exhausted. It very likely leaves the general energy not perceptibly impaired and ready for fly-fishing or swimming or smoking and talking politics or anything else the owners resolve to do.

Paulo majora canamus. Toothache and chess are much more absorbing than much more important occupations. Whatever we are doing, whatever reason we have to do it, we are seldom wholly and spontaneously taken up in it (hence the difficulty of application); so too when we are contemplating something to be done we are quite aware of reasons for doing it, perhaps not aware of any reason against it, and yet it is not true as a rule that the reasons of themselves determine us: we have to make up our minds with more or less delay to act upon them. Most people at some time of their lives find it a daily test of resolution to get up in the morning; most people if they sit up long after their time find they have to make an effort to go to bed. It would be absurd to imagine those in such case swayed by the rival attractions of bed and breakfast, or the fireside and bed; commonly enough the only attraction felt is a languid one to doing the proper and sensible thing, but this attraction has to be reinforced by an inward effort. So too when we yield to temptation, up to a certain point we co-operate with the feeble attraction of the right course and then we co-operate with the stronger attraction of the wrong. Seldom, if ever, do we resist in vain until the temptation with which we have parleyed has gathered strength and volume enough to sweep us away. As the tide rises we plunge.

It is the same with innocent alternatives: we may weigh consequences and balance difficulties till we feel no inclination left to any course, and this though, before we stopped to deliberate, the attraction of one may have been strong enough to make impetuous instinctive action possible, since in a world like this reflection upon remote results commonly mortifies desire. For instance, if a man asks a maid to run away with

him at a moment's notice and she consents, her act is most plainly one determined by a motive—complicated enough though probably her imagination of the man's need of her is the decisive part in it. If on the contrary two people are reasonably persuaded that a runaway match is their only chance of marrying, if they are both possessed with expensive tastes and habits, it is obvious that their decision if they take time to reflect will be very nearly unmotived. The more they contemplate the wretchedness of the state when poverty comes in at the door and love flies out at the window, or the gradual drying up of all interest and emotion out of their lives if they prefer their habits to their love, the less they will see to desire in either path; and if they consider farther how they came to a meeting of two such ways they will find how much there is to fear and little to hope, and will conclude that in an unfortunate planet the least unfortunate are the small minority who find action enough without any prospect of enjoyment. But if the lovers have lost any rational prospect of enjoyment the loss does not abolish their own activity, they are young and vigorous. The light of truth has put out their desires as sunshine puts out a fire of coals. Desire does not blind them and yet they are able to blind themselves, that desire may burn up a little in the dark to warm them at the beginning of a journey that will chill them to the marrow before it is done. The received explanation is that the same set of motives, the same conflict of desire and circumstance, acts differently upon different characters. And it is quite true that there are crises which are simply a revelation: they bring to light what has been growing more or less consciously while there has been no need to talk about it or act upon it. But often there is a real struggle, a real suspense, followed by a decision. If an emergency is not too much for us we rise to it—if, in other words, it brings out fresh powers which have still to receive their direction. To take an instance that is not tragical. It is quite possible that a boy of fifteen may have to decide whether he shall be an engineer or stay at school and go to an university: it will probably be a little shock to him to realise that thenceforward his employments must have a definite purpose, but this will give place to a sense of responsibility at once steadyng and bracing. Suppose he has fair sense of his own and considerate friends, who wish not to dictate to him but to help him to make up his own mind, and a pretty fair chance of a moderate success either way. Let him think which of his impulses present and prospective either life would gratify; let him think of acquaintances whose positions seem to be within his reach, and ask himself which of them he would wish to be like at forty. It does not exhaust our perception of

the case to say the boy is free; something woke up that is free within the boy, something that is as independent of the rival inducements each of which has its hold upon him as a judge is independent of the counsel between whose pleading he decides after learning all he knows of the cause from them.

So far then we have an explanation of the immediate consciousness of free will as the consciousness of that part of the sum total of our energy which we feel just coming into play, not yet taken up as much if not most is by habit, desire or circumstance. Some farther observations will strengthen this explanation. People who seem in some way weak and irresolute, like Johnson who was incurably indolent, or Coleridge who in the literal etymological sense was incurably 'dissolute,' or Maine de Biran who was at the mercy of distractions, are remarkable for their confidence in their consciousness of freewill, while great men of action like Cæsar and Napoleon are often fatalists, even though they may be dilatory like Wallenstein or irresolute like Cromwell. It is plain that in great men of action the two factors of human activity derived from nutrition and from experience are fused into perfect unity, while in the men of speculation the fusion is imperfect to the last as it is in the great majority of mankind. Hence while men of action conceive their own activity by the analogy of the more impressive of the overwhelming forces of the outer world, men of speculation formulate and defend the natural "personification of the abstraction Will as something apart from the total of volitional impulses, and therefore removed from their conditions". And there is much in the experience of the most exemplary men of action who are content to work within consecrated limits to reinforce the theory which commends itself to men of inaction. The perfect unity which is so wonderful in the central portion of the career of a Cæsar or a Napoleon is only possible when the monstrous overweening activity, beneficent or maleficent, is absolved from all laws and conventions and tries to be a law to itself alone. A thoroughly dutiful person is always persevering with tasks that have grown distasteful, doing unprofitable things, leaving profitable things undone, out of deference to personal or impersonal superiors, crushing strong impulses in order to husband strength to act upon weak, never able for long together to act without thinking, never able to suspend action to indulge in unbroken thought. In this way also it is possible to come to unity at last, perhaps a more admirable and stable unity than is possible to unrestrained self-assertion. Cæsar crawling up the steps of the Capitol on the day of his triumph, Napoleon improvising a Christology at St. Helena suggest a break-up. But the unity of self-assertion is

spontaneous ; the unity of self-control has to be laboriously maintained, in many acts it has to be laboriously attained. To compare great things with small, no one is conscious of effort or freedom when they run from hurry or fright : very few keep up a steady pace for three days together in a walking tour without some sense of both. Or we may recur to the case of Coleridge : he recognised a law which he fulfilled very imperfectly ; his ineffectual effort at conformity was accompanied by a sense of freedom, responsibility, guilt. Shelley's theory was the unrestrained assertion of human spontaneity or communion with nature, and as might be expected Shelley was a necessarian. To resume what has been said : so far as human conduct depends upon experience or desire we have as much evidence as we could expect that it is subject to the "law of causality";¹ it is the unexperienced energy which manifests itself in disinterested activity, in resolutions great and small, in the deliberate decision of great alternatives, in baffled aspiration and in dutiful endeavour, that gives rise to the subjective consciousness of freedom.

And here we come to the question, Is the subjective consciousness objectively valid ? If, as has been suggested, the subjective consciousness is really dependent upon the fact that sensation and work seldom if ever entirely expend the store of strength accumulated or replaced by growth and food, it seems as if we might confidently answer the question in the negative. It is obvious that the growth of a stable formation like a crystal, an unstable formation like a plant or an animal, is always in a definite direction except so far as it is marred by external hindrance or internal defect. Naturally we are inclined to explain the most complex organisms by the analogy of the simpler and have a plausible presumption to read into the scanty observations which it is possible to make. We may see that one is naturally resolute, another naturally irresolute ; one naturally industrious, another naturally indolent ; one naturally roused by emergencies, another naturally cowed by them ; one puts forth more strength as difficulties multiply, another comes to a standstill. The difference seems like the different ways in which horses answer the spur. We may see too that the sense of freedom to do either of two things when we are doing neither has a curious resemblance to the arrogance of youth which has done nothing yet and in the pride of opening power pronounces everything that has been done unsatisfactory. Another fact which seems to tell the same way is that it happens to many to be tempted or provoked into the indulgence of unlawful wishes

¹ This corresponds to Kant's distinction between empirical determinism and transcendental freedom though the point of view is different.

with which they reproach themselves little because they never come to a commencement of execution. Their unwholesome day-dreams of pleasure or power or revenge incapacitate them more or less for waking life, but still it seems their activity is quite incapable of following the vagaries of their imagination. It is all one whether it comes into any empty head that it would be useful to rid the world of a tyrant or that it would be pious to copy the austerities of a devotee; whichever it is, plenty will be fools enough to nurse the thought, very few will be fools enough to begin to act upon it, most of them will draw back in time. If our activity were unconditionally free it would be free to attempt whatever we desire even though it were something which, whether right or wrong in itself, is absurd for us to attempt. As it is, it rebukes our dream with the dumb persistence of Balaam's ass. It is plainly free from the law of our desires and as plainly subject wholly or in part to other law.

On the other hand, it is by no means clear that the subjection is total: no amount of day-dreaming about Charlotte Corday or Saint Teresa will turn a commonplace person into a tyrannicide or an ascetic, but one of the things most completely in our power is whether we will check barren day-dreams or no. They present themselves more to some than to others, but of those to whom they come thickest some put them away. There are people naturally dreamy who have trained themselves to be practical, people naturally inattentive who have conquered application, as there are people naturally irritable who have conquered gentleness. Neither they nor others notice that they set out with an even stronger desire for the acquired habit or for some of its results than is to be found in those who acquire it to the same extent with no difficulties to overcome, nor is it found that they have always had some poignant experience which has forced them upon self-conquest. The more closely we analyse the process of the improvement or deterioration of character through a steady direction of the attention and intention, the harder it is to think away the central self which as far as we can trace the process back seems always active. If we consider the training of a man as a whole, it is possible to give an account of it without referring to anything but the conditions inward and outward which belong to the general order. He must have some desire and some aptitude for the end in view; action in the right direction will be sure to strengthen his desire to extend his aptitude; familiarity with certain ideas, association with certain persons, contemplation of certain results will as surely facilitate action. But it is he who has to act, he who has to dwell on the ideas, he who has to seek the associates, he who has to bear the results in

mind. Some do this, others not, the same man sometimes does sometimes not. Always we are thrown back upon the fact of choice at last when we try to go to the root of any special piece of conduct. It is possible to carry out the inquiry into effects within the sphere of psychology, but if we wish to carry out the inquiry into causes it would be necessary to descend into the sphere of biology where the late Mr. Lewes suggested that an explanation might be found. It is certain, for instance, that what affects the digestion is apt to affect the temper; it is also certain that what affects the temper very strongly is apt to affect the digestion. It may be held that the first of these two certainties is the more important because it is matter of ordinary observation that most fits of temper wear off under the influence of a good dinner.¹ It may also be held that discoveries yet to be made in the tissues of nerves or brain or in the variable rate or proportion of the different secretions may contain an answer to the question why among other things self-accusation is a bracing discipline to one and an enervating indulgence to another; only it is to be remembered if we hold this last we hold it as a matter of faith. We return to ground which is solid by comparison when we observe that all which is distinctively human implies the central store of surplus energy of which we spoke before. A thorough-going evolutionist is bound to face the question whether language is developed out of the cries which perhaps once accompanied keen external sensations as they still tend to accompany keen internal sensations, or out of the cries which accompanied concerted action; but whichever explanation may be favoured by the tabulated results of an analysis of the most ancient roots, it is clear that to erect the cry into a symbol of the accompanying perception already implies a vast superiority, and a rudimentary power of abstraction quite as special as the second step by which the symbol becomes the instrument of forming general concepts. So too with desire: in other animals desire is limited to the objects which suggest or satisfy it; it is peculiar to man to desire first something more than he finds or has found, then something better, then something other, till he ends by wanting better bread than is made of wheat. The power of idealisation is intimately associated with the power of generalisation; both imply a self apart from things.

And this self is always at first a disturbing element in the organism though afterwards it may and does become an element of guidance. To take the very simplest instance: almost any animal can stand or walk as soon as its legs are strong enough to

¹ On the other hand there is good medical authority for the belief that more men upset their stomachs by mismanaging their nerves, than upset their nerves by mismanaging their stomachs.

carry it; long after a child has reached this stage it is continually losing its balance and falling down: it has to learn to walk with its whole being, whereas for an animal the reflex automatic sensations of the legs are enough. So too when a child is old enough for oral training; if it is taught to do a thing the first thing it learns is to form some representation of what has to be done as a whole: in training an animal every stage of the process has to be separately inculcated and every inclination of the animal to do anything else has to be checked till the lesson is finished. After several repetitions the animal has some dim notion of the process as a whole, enough perhaps to set it off through the whole performance at a signal invisible to a looker-on. But a child learning to dance has just as much advantage over an animal as an animal has over a child learning to walk.

Conscious action and voluntary action are correlative conceptions (action under such excessive strain as to preclude consciousness is properly reckoned involuntary); self-conscious rational action and deliberate choice between distinctly imagined alternatives are correlative conceptions (in a continued methodical course of action pursued without hesitation self-consciousness and even distinct reflection upon the original purpose tend to disappear, reappearing as occasions of hesitation or declension arise). Is self-determination more unique or more anomalous than self-consciousness?

If we suppose, for the sake of argument, that mankind originated from a breed of highly improved apes by their exchanging a diet of fruit and nuts for a more digestible diet of unimproved cereals and at the same time exchanging arboreal for terrestrial habits, we are entitled to insist that the double change must have liberated a great deal of energy which may of course have gone to the head, though this does not seem to have been the case with the dodo. But even conjectures like this do not really make the hypothetical chain of causality complete. The most plausible conjecture as to how a reservoir has been filled does not tell us whether it will overflow.

It is obvious that the doctrine suggested above does not imply any belief in the creation of fresh energy (in the brain or elsewhere); it is quite in accordance with the orthodox assumptions that the whole sum of energy in the universe is absolutely fixed, that the share of the solar system is fixed since the first movements of the primæval nebula towards condensation, and that the share each individual is to appropriate is fixed by conditions of ancestry and nurture. When a man chooses, whether we believe in free will or determinism, energy is no more generated than when water boils. Very likely the water was doing no work till it passed from the tank to the boiler; when

there it might turn the engine or burst the boiler. Whether it stayed in the tank or turned the engine or burst the boiler did not depend upon the water. Whether a man shall live at full pressure or no, whether his activity shall be destructive or constructive, seems to depend so far as yet known on free will.

This must not be exaggerated: the power of free will is limited and transient. There is always a proportion between what we can attempt and what we can perform, even between what we can imagine and what we can attempt. The reason is not far to seek. As Professor Bain has pointed out, conscious action presupposes unconscious activity just as certainly as conscious thought presupposes confused sensibility. Free thought, free will develop and detach themselves from a back ground of automatism; trained thought, trained will become automatic again. A baby crows before it can talk, a man learns to converse and "falls into anecdote". Very young children have no free will; sometimes one sees in them a certain obstinacy of desire that looks like a rudiment of it. Very old people have no free will either; sometimes one sees in them an insistence upon habitual claims, often as impotent as it is imperious, that looks like a residuum of it. Even persons still in their prime, in full and successful employment, are much more keenly aware of things that have to be done than of their freedom to do something else.

After all free will is not the highest freedom: it decides perplexities, it determines hesitations, it surmounts hindrances; things and people, the world and the flesh are against us and yet to some extent we get our way in spite of them; we struggle to keep our place in the ranks, to keep our ground against the torrent; we are above and apart from nature, even our own nature, which we strive to subdue as its pressure almost overpowers us. But the action of the perfect so far as they are perfect is as natural as the play of a kitten, as the blossoming of a rose. Only it proceeds from a higher nature in which experience has passed through reason into insight, in which impulse and desire have passed through free will into love.

G. A. SIMCOX.

III.—RELATIONS OF REASON TO BEAUTY.

THE words *law*, *order*, *regularity*, are the key-notes of all scientific discussion ; and we naturally come across them whenever attempts are made to treat aesthetic problems on a scientific method. There seem, however, to be special dangers and ambiguities connected with their use in that particular region ; special facilities for sliding imperceptibly from one sense into another, and so adding extra confusion to branches of inquiry which are in any case sufficiently obscure.

“Beauty,” says Helmholtz in the last chapter of the *Ton-Empfindungen*, “is subject to laws and rules dependent on the nature of the human intelligence.” This, though sounding most reasonable, is just the sort of statement which is liable to be misunderstood and misapplied : and some of the points I wish to discuss may be conveniently introduced by inquiring in what sense and within what limits it is true. That there are limits is soon manifest. For instance, it is a law that regular rapid stimulation of certain nervous organs produces the sensation of a musical tone : in other words, the subjective impression of beauty of tone is subject to a certain rule of nerve-stimulation which in no way depends on the nature of human intelligence, and the relation of which to the sensation of pleasure is an ultimate simple and non-reasonable fact. So a piece of red coral presented to an infant, or a piece of blue sky vacantly gazed at by an adult, affords a pleasure whose conditions may certainly be generalised into a law, but a law expressed in terms of physics and nervous organs, not of human intelligence. And a large part of the beauty perceived in the *colour-qualities* of sights and sounds is clearly of this ultimate character. When however we pass on to *forms*, to objects and melodies, where the co-ordinating mental faculties become active, Helmholtz’s statement about laws and rules seems at once applicable. But a confusion is still possible : *subject to* laws and rules often slips into meaning *consisting in subjection* to laws and rules, clearly a very different thing. For instance, if we take works of art, with special reference to which Helmholtz is speaking, we see that a painter must not represent in one picture a number of heterogeneous and quite unconnected objects, because it is a law that the mind is puzzled and distracted by total aimlessness and want of unity ; a composer must not repeat exactly the same passage twelve times running, because it is a law that the mind is wearied by prolonged and objectless monotony ; neither painter nor musician must introduce grotesque incidents or episodes into solemn compositions, since it is a law that the mind resents

pointless incongruity. But the laws and rules which can be thus formulated have, so to speak, an external sort of relation to the beauty : they are controlling conditions, not essence : no such formulae will account in the slightest degree for the central face in the *Cenacolo* or for *Dove sono*. So again, it is quite true, as Helmholtz goes on to observe, that we may "seek to enhance our enjoyment and interest by tracing out the suitability, connexion and equilibrium of all the separate parts" in a work of art. But still we shall be dealing with the conditions, the framework, the means of setting forth and focussing the essentially expressive forms. The necessary regularity of the composition in the *Cenacolo* would disappear, and we should instantly see the mistake, if the divine face were in a corner instead of in the middle, and an indispensable rule is observed by putting it in the middle: but this is the arranging, not the informing, element; it is the expression that moves us, not the position. Nor need we take such extreme instances : the treatment of the subject-matter may not be irrational, and yet may fail to be imaginative or interesting; and its success or failure in this respect falls naturally under our intellectual cognisance. Thus a painter introduces as many objects as he likes into a picture, and groups them as he pleases: he could verbally explain and defend his arrangement, and we could discover, or Mr Ruskin could discover for us, the various ways in which the eye was led and helped and the mind satisfied, and the various causes why the arrangement was powerful and suggestive, or (it might be) weak and theatrical. But it is not in any way demonstrable that one nose is more orderly than two, or two eyes more conformable to reason than four. The expression of a face, the strength and freedom of Turner's mountains and waves, are not revealed to us by any reasoning process. However characteristic of the artist's genius, however essential to the artistic product be the features of rational or imaginative combination and arrangement, they stand distinct from the qualities inherent in the separate items of the subject-matter: and considerations which can be set forth to the intelligence in words cannot penetrate to the individual forms, whose impressiveness (as I hope further to show) is to our immediate consciousness special and ultimate, and only presentable in the proper materials of the particular art.

But that inherent significance, it may be urged, and those individual forms, are recognised and enjoyed on grounds which may surely be classified and defined: granting the general arrangement of the subject-matter in elaborate works to be a more external and describable affair, still our knowledge of mental constitution should surely afford us some principles about the more essential elements of beauty. Certainly: such principles,

so far as they go beyond the mere laws of sensory stimulation and extend to the intellectual region, will be the general facts of our mental processes, as regards, e.g., the pleasure of imitation, or the love of type and metaphor, and, above all, the laws of association, hereditary and individual, which are deeply involved in most of our enjoyment of form. But here the "laws and rules" are of a totally different kind from those we have hitherto spoken of: they are general facts about the development and characteristics of mind itself, not about relations which the mind desiderates in phenomena, and to which therefore beautiful phenomena are bound to conform. They are general as applying to all minds, not as applied by the mind to all phenomena: their regularity is not a logical order demanded by the mind, but the mere historical regularity wherein the evolution of mind resembles all other gradual natural processes. So that, if we try to apply this new conception to the old quotation with which we started, its sense is wholly inverted and it becomes a barren truism. From meaning that phenomena, to be beautiful, must first prove themselves to be reasonable by subjection to general rules of the intelligence, it would have come to mean merely that the mind perceives and feels a particular thing, beauty of this or that kind, as it has been by nature constituted to perceive and feel it.

In an artistic work, then, it seems as if we must carefully discriminate an element of law and order which can be formulated and recognised as in accordance with what we know of the mind's general activity, from an element of beauty and impressiveness which it is my main object to prove to be beyond the reach of formulæ and of conscious analysis, and the perception of which in each special kind of presentation seems connected with some special range or ranges of association, dating back in many cases to the very dawn of mental life. This element is the peculiar characteristic of the units, which, though subsidiary in the sense of contributing as parts to the whole effect, are themselves complete forms or organisms, naturally and essentially organic in contrast to the larger artistic organism into which they are artificially combined, and incapable of being further reduced or analysed without complete mutilation or violation of all natural impressiveness: as, for instance, if we analyse a face into its separate features, or dissect a flower into microscopic parts. In the case of music, where the melodic and harmonic forms are not objects or unities known in the external world, but new presentations, the line dividing off what shall be regarded as absolutely complete organisms from the clauses, themselves organic, which combine into larger forms, is necessarily less distinct: but any melody or "subject" or phrase which can be thought of and enjoyed in detachment, has enough

completeness to constitute a form in the sense meant. And the case of architecture is to a certain degree analogous.

But, again, it may be urged that though we have pointed out one sort of law and order which does not explain or constitute beauty, we have no right to assume that reason does not penetrate beauty in some other way. Is not *symmetry* perpetually an essential factor in the individual and irreducible forms? and surely this commends itself as reasonable to the intelligence. Now the main source of confusion between general intellectual processes and special perceptions of beauty is the very fact that one of the simplest relations which the mind perceives and grasps is that of symmetry and regularity, combined with the further fact that this relation, being often present in beauty, is often perceived with pleasure: whence, by taking the factor for the whole, and then mixing up the ideas of regularity and rationality, a sort of relationship seems to be established between beauty and recognised laws of mental activity; and such a statement as that the reasoning mind requires and enjoys symmetry and order, becomes one of the laws and rules to which "beauty is subject". In other words it *sounds* more rational to say "the mind is so ordered as to enjoy order" than to say "the mind is so ordered as to enjoy disorder". And yet, as regards truth, the latter statement would serve quite as often as the former, if we could at all rest in either as an adequate explanation; for if on the one hand Westminster Abbey is beautiful, so on the other is the tangled luxuriance of a tropical forest. But we continually find such facts, for example, as that the human face is normally pretty symmetrical, and in case of beauty often very completely so, and also that beautiful faces do not present wide divergences from a norm, taken as basis for an explanation of human beauty; which is referred to "the mind's love of symmetry and regularity," and dislike of things exaggerated and abnormal. When we examine such a particular case, we of course see at once that many faces which are quite regular and have no exaggerated feature, are not in the least beautiful; and that though symmetry may be an ineradicable factor, the beauty lies more essentially in minute details of free form and curvature, the unanalysable effect of which on us is mainly due to vast hidden stores of association and an extraordinarily developed power of comparison, *regular* only in the historical sense that their existence is not an unconditioned 'fluke'.

The conception of regularity and conformance to reason as the primary factor in beauty, if legitimately pressed, naturally leads on to an actual identification of aesthetic perception with scientific cognition; an identification which was expressly made by Comte, and which often turns up under some form or other in aesthetic

discussions. I have been fortunate in finding an especially clear and courageous statement of this view in an ingenious paper on the "Evolution of Beauty" by Mr F. T. Mott, in the *Quarterly Journal of Science* for July 1878, some sentences of which I cannot do better than quote and condense.

"Beauty" he says "is an abstract idea of the same nature as Goodness, Truth, Power, Charity &c., and that which causes this idea to present itself in the human consciousness is the *perception of relationship among a number of diverse sensations*, of unity co-existent with variety. When the attention of the mind is focussed upon a variety of points in rapid succession, and the intellect is able to recognise *relationship* among all these points as members of one group, there arises the idea of Beauty. It can only present itself under the conditions of mental activity co-existent with the perception of relationship, proportion, unity." Acts of attention, if absolutely repeated, are monotonous; hence the primary condition under which any object can appear beautiful to the human mind is that it be compounded of sufficiently varied parts. "Every object in nature is so compounded of various parts, but human minds are not equally sensitive to small shades of difference." "Every object in nature is a group of parts related to each other in ways more or less complex and subtle. If any mind were absolutely sensitive to all degrees of relationship in all its aspects, nothing would appear chaotic. A mind absolutely sensitive to all shades of difference and to all degrees of relationship at the same time, would see everywhere throughout creation variety bound up in unity, would find neither monotony nor chaos, discord nor ugliness, but only a universal Beauty." The mind however is "sensitive either to variety or unity only within narrow limits". No difference is perceived between seeds of the musk-plant, no relationship between the numbers 264, 330, 396, 462: whereas the stones on a gravel-walk present sensible differences, and 2, 4, 6, 8 are obviously related. "The closer the relationship, the more easily is it recognised." A pentagon, hexagon, circle, square, equilateral triangle possess beauty; a dodecahedron is scarcely beautiful except to a mathematician.

Now here the identification of æsthetic perception with cognition is so fundamental, that all reference to our actual senses seems to be dispensed with. To see "everywhere throughout creation" beauty in place of chaos, a change of eyes would certainly be necessary: for those we now possess see, except in rare cases, only outsides. Moreover extent, as well as opacity, would make universal beauty hard to get at. Suppose then we give up such inconceivable regions and select some very large object, say the desert of Sahara. It is probable that no two grains of sand there are identical in size and shape, so that with sufficient magnifying power we ought to get a splendid notion of unity under variety; but then unfortunately the disproportionateness of the parts to the whole is so enormous that the differences of the parts seem to have absolutely no relation to the individuality of the whole, which would remain unaffected if the position of every part were altered. We have then to come down with a run to limited and clearly defined conceptions, and to what in the visual region we know as forms,

(to audible phenomena Mr Mott makes no reference), and in considering the view in relation to these, we must do what the author has not done—carefully distinguish *two modes* of relation between the parts and the whole. (1) Definite points of identity are perceived in the parts, and the relation between the parts is at the root of and explains our perception of the whole; as, for instance, in a geometrical figure, whose regularity and unity are perceived by a comparison of similar lines and angles, or in an arithmetical series seen to be a regular one by the perception of the common difference. (2) The sense of the whole is the primary and fundamental fact, and the only point of identity perceived in the parts is their common character of belonging to the whole, the exercise by each of a function impossible to it in isolation: as in the profile of a face, or in some irregular natural object, or in a line of changing curvature. Often, indeed, the first of these modes of relation seems partially present with the second, as in a human face and figure seen from the front: but here, though the relation of symmetry between the two sides is perceived, the effect of this element is not so essential but that it could and would have been dispensed with, if human beings had been naturally and habitually unsymmetrical on some definite plan. In the first mode, pure and simple, the recognition of the common characteristics and the relations of the parts seems scarcely able to get beyond the satisfaction of mere scientific cognition: and Mr. Mott would surely have to admit some such distinction as we have drawn, if he would avoid the conclusion that a complicated but intelligible geometrical figure is as beautiful as a statue; since the perceptible points of identity and relation in the parts of the statue might well not exceed in number and variety those of the figure. And, indeed, though most of his statements and examples point to the first mode of relation, Mr. Mott does himself say that “the point of identity which must be perceived in order that the group may appear beautiful is that all those phenomena belong to that group,” and take a necessary part in its formation: which is a statement of the second mode.

If then we examine his position on this side, it is of course obvious that the perception of beautiful form does entail the perception of unity under variety. It is through the immense exact and rapid sensibility of the eye and ear to variety in the impressions they receive, and the consequent opportunities for comparison and co-ordination, that seeing and hearing are *par excellence* the aesthetic senses. For not only is the mental activity, which is a necessary factor of the highest pleasure, intimately connected with this exact and subtle sensibility to the arrangement or order of impressions, but the immense variety possible in forms

is the necessary condition of any wide variety of association and suggestion. Thus it is only in connexion with *forms* that the higher and more complex mental faculties come into close and habitual relation with sense-impressions ; whence their aesthetic superiority to *colour*, the purely passive and sensuous enjoyment of which is shared with us by many animals : for though an animal may *recognise* objects, may take this or that shape as a symbol of known attributes, it lacks the mental development necessary for aesthetic enjoyment of their form.

But the co-ordinating faculty has *in itself* no aesthetic character : unity under variety is a characteristic, or rather is the definition, of all form, not specially of beautiful form. On Mr. Mott's theory a prize-pig is as beautiful as a peacock, the Wellington statue as the Venus of Milo. The spectator is treated as though he were a sudden importation from another sphere, gifted with the perception of relations of fact, but without any emotional history or nature ; not as the product of slow development in a certain environment, a being whose perceptions in certain directions are saturated with emotion, and whose feelings, however sublimated and differentiated, have their primæval roots in simple unanalysed experiences. As regards the visible objects which appear to us beautiful, the rough rudiments of the associative element are sufficiently obvious. Thus, as regards our knowledge of the human face and form, the acts of attention in which we and our ancestors learned the minute and infinite varieties of shape and adjustment have been associated with countless experiences of safety and comfort in connexion with smiles and kind looks, of strength and security in connexion with healthy limbs : the qualities of power and gentleness would be sufficiently manifest even in the *præ-human* stage, and the eye would note their visible signs, while such more complex qualities as dignity and refinement, or meanness and vulgarity, would need more advanced powers of abstraction and generalisation : grace easily associates itself with the pleasure of smooth motion ; weakness of frame suggests staggering and falling ; and so on. Thus in the acts of contrast and comparison characteristic of the sense of sight, differences would be not only *known* but *felt* ; and the complete impression would be quite incomensurable with the perception that arms differ from legs or a pentagon from a hexagon.

Not but that in the sight of beautiful objects there is a strong element of enjoyment of *abstract* form, direct pleasure in line and curvature. The discussion of this feature, however, together with some further consideration of what is, and what is not implied in *symmetry*, will be best deferred till we have further examined that general theory of the subject, in relation to works

of art, to which reference has been already made, and which seems to have a special bearing on those very points. The view in question, while differing fundamentally from Mr. Mott's in recognising that our senses with their given powers and limitations are for us the channels of beauty, still involves in a certain form the first mode of relation above-discussed, though again it differs by representing the *rationale* of relationship in the parts as something not consciously apprehended but instinctively surmised. It is the view drawn out at considerable length by Helmholtz in the above-quoted last chapter of his *Ton-Empfindungen*, and it appears to me decidedly less sound than the masterly exposition to which it is appended. His reason for its introduction is his opinion that "there are probably few examples more suitable than the theory of musical scales and harmony to illustrate the darkest and most difficult points of general aesthetics". Postponing the musical point, I will briefly epitomise his statement of the problem itself.

Works of art, (he says) though subject to laws and rules, must appear undesigned : if anything proclaims itself a product of mere intelligence, we refuse to accept it as a work of art. The very fact, however, that we subject works of art to a critical examination and trace out the suitability and connexion of the parts, shows we expect it to be *reasonable*, "shows that we assume a certain adaptation to reason in works of art, which may possibly rise to a conscious understanding". Yet the beauty must be such as to be recognised by the immediate taste without any such deliberate reference to reasonableness. Nay this unconsciousness is essential ; for it is through the imperfection of our perception, "through apprehending everywhere traces of regularity, connexion, and order, without being able to grasp the law and plan of the whole," that we get the ennobling conception of the existence in the work of a mighty permeating order, visible to us only by fragmentary glimpses, and that hence we divine a something infinite and transcendent by virtue of which a work of art seems to represent the infinite and ordered universe. "It is precisely from that part of its regular subjection to reason which escapes our conscious apprehension that a work of art exalts and delights us, and that the chief effects of the artistically beautiful proceed *not* from the part which we are able fully to analyse." The difficulty is to understand how, without consciously feeling the regularity *as such*, we nevertheless appreciate by our own tact and taste an amount of "order, connexion and equilibrium of all internal relations" which conscious thought could only accomplish with infinite time and labour.

Such is the view : and again those unfortunate words *order* and *regularity* seem to me the real culprits, leading on, as they do, to the position that because beauty is *ordered*, it is *order*. The element of an elaborate work which we are *not* able to analyse and reason about, the element which I have described as the inherent significance of the irreducible individual parts, is treated as though it was a further and more complex carrying out of the same kind of order as that which we *are* able to analyse and reason about, which I have described as the general

laws and features of composition and congruity in the whole. Helmholtz says that "through apprehending everywhere traces of regularity, connexion and order, without being able to grasp the law and plan of the whole," we get the idea that the design is something transcendent, illimitable, and so on. That is, essential beauty is treated as continuous and identical in nature with rational and striking arrangement: supposed conformity to general rules of balance, variety and coherence is credited with the vital beauty of a face or a melody. This "law and plan of the whole," which is what Helmholtz says we cannot grasp, represents to my mind the necessary conditions, the combining order, the *rationale* and significance of the general treatment which are, I hold, just what we *can* grasp and connect with recognised facts of our mental operations: such regularity as is so presented is consciously perceived *as such*, or may become so with further acquaintance. What we *cannot* logically grasp or analyse is not the plan of the work but the *essence* of the impressiveness and individuality in the forms, visible or audible, which make up its subject-matter. To this element law and regularity can only apply in the barren *historical* sense that our perceptions of it came regularly about by natural laws: its *nature* is out of all relation to regularity or irregularity, to reasonableness or unreasonableness, and the intuition of it would not be reached by the most intimate knowledge of "equilibrium of parts" and internal relations. This is perhaps sufficiently clear, and has been sufficiently dwelt on in respect of the imitative arts: but the arts which deal in abstract forms, architecture and music, present greater difficulties, and to these we will now pass. However rooted in the conditions of our environment be the enjoyment of the forms of concrete objects, it may be said, Must not the pleasure in abstract lines and forms be a pleasure in order and regularity? for, since they are in their very nature representative of nothing in the external world, it is not easy to see how their effect on us could have been built up out of simple associational elements.

We will take visual forms first, as presenting least difficulty: for not only are they simpler in themselves, but in the effect produced by buildings there are elements which may be very distinctly traced to associational and other mental sources. For instance, the branching appearance of a gothic roof may be held to owe some of its effect to dim suggestions of forest-forms; and in the ornamentation which is often the informing spirit of a building, many of the forms, though stopping far short of direct representation, are more or less clearly founded on those of organic nature. In the pleasure given by mass, size and strength also, architecture reaps the benefit of conceptions which are chiefly formed in the

presence of nature ; and the evidences of elaborate and conscientious human labour add another feature to the impressiveness. Even in the mere symmetry which is so prominent a fact there is a considerable element of external reference : for architecture rests on a basis of utility ; and the end or purpose of the building being apparent, as well as the amount and sort of material with which it had to be realised, a large amount of symmetry seems both rational and in many cases necessary, as in the arrangement of the walls and the proportions of the roof. But giving its full due to the element of rationality, whether connected with orderly arrangement of parts pure and simple, or with a further reference to convenience and mechanical conditions, we find that when we trace down the complexity of forms to the simple constituents, and arrive at such a fact as subtle curvature of line or surface, in structure or ornament, we have passed the point where apprehension of order and regularity can be at all adduced in explanation of beauty. To the lines of nature Mr. Ruskin attributes "the universal property of ever-varying curvature in the most subtle and subdued transitions, with peculiar expressions of motion, elasticity, or dependence," and all beautiful lines may be said to be borrowed from nature, though they are of course fairly called *abstract* if they do not suggest any natural object ; just as, conversely, we may attribute to objects beauty of abstract line if the lines are such as would appear beautiful even in abstraction. Constant variation then, and not regularity, is the essential feature : otherwise straight lines and circles would be the most, instead of the least, beautiful of the lines which the eye can easily follow. In *Modern Painters* there is a suggestion that these ever-varying curves are typical of infinity ; but it would be hard to lay much stress on this point, and their expression of action or force is probably more truly at the root of the matter. Even this more definite kind of suggestiveness, however, marks a great difference from the associational sources of pleasure in human and natural beauty : it results not from a slowly gathering accumulation of simple experiences, but from abstract conceptions only possible to a highly developed imagination. But it has the same negative characteristic—remoteness from any order or plan, from any formulae of intellectual cognition ; nor could any rule about it have been suggested *à priori* by even the most complete knowledge of general mental processes.

If now we turn to the other sort of abstract forms, those presented by music, the difficulty seems in every way greater, since for these not only is there no sort of foundation or suggestion in the phenomena of nature, but all reference to the external world in the way of utility and convenience is also

laws and features of composition and congruity in the whole. Helmholtz says that "through apprehending everywhere traces of regularity, connexion and order, without being able to grasp the law and plan of the whole," we get the idea that the design is something transcendent, illimitable, and so on. That is, essential beauty is treated as continuous and identical in nature with rational and striking arrangement: supposed conformity to general rules of balance, variety and coherence is credited with the vital beauty of a face or a melody. This "law and plan of the whole," which is what Helmholtz says we cannot grasp, represents to my mind the necessary conditions, the combining order, the *rationale* and significance of the general treatment which are, I hold, just what we *can* grasp and connect with recognised facts of our mental operations: such regularity as is so presented is consciously perceived *as such*, or may become so with further acquaintance. What we *cannot* logically grasp or analyse is not the plan of the work but the *essence* of the impressiveness and individuality in the forms, visible or audible, which make up its subject-matter. To this element law and regularity can only apply in the barren *historical* sense that our perceptions of it came regularly about by natural laws: its *nature* is out of all relation to regularity or irregularity, to reasonableness or unreasonableness, and the intuition of it would not be reached by the most intimate knowledge of "equilibrium of parts" and internal relations. This is perhaps sufficiently clear, and has been sufficiently dwelt on in respect of the imitative arts: but the arts which deal in abstract forms, architecture and music, present greater difficulties, and to these we will now pass. However rooted in the conditions of our environment be the enjoyment of the forms of concrete objects, it may be said, Must not the pleasure in abstract lines and forms be a pleasure in order and regularity? for, since they are in their very nature representative of nothing in the external world, it is not easy to see how their effect on us could have been built up out of simple associational elements.

We will take visual forms first, as presenting least difficulty: for not only are they simpler in themselves, but in the effect produced by buildings there are elements which may be very distinctly traced to associational and other mental sources. For instance, the branching appearance of a gothic roof may be held to owe some of its effect to dim suggestions of forest-forms; and in the ornamentation which is often the informing spirit of a building, many of the forms, though stopping far short of direct representation, are more or less clearly founded on those of organic nature. In the pleasure given by mass, size and strength also, architecture reaps the benefit of conceptions which are chiefly formed in the

presence of nature; and the evidences of elaborate and conscientious human labour add another feature to the impressiveness. Even in the mere symmetry which is so prominent a fact there is a considerable element of external reference: for architecture rests on a basis of utility; and the end or purpose of the building being apparent, as well as the amount and sort of material with which it had to be realised, a large amount of symmetry seems both rational and in many cases necessary, as in the arrangement of the walls and the proportions of the roof. But giving its full due to the element of rationality, whether connected with orderly arrangement of parts pure and simple, or with a further reference to convenience and mechanical conditions, we find that when we trace down the complexity of forms to the simple constituents, and arrive at such a fact as subtle curvature of line or surface, in structure or ornament, we have passed the point where apprehension of order and regularity can be at all adduced in explanation of beauty. To the lines of nature Mr. Ruskin attributes "the universal property of ever-varying curvature in the most subtle and subdued transitions, with peculiar expressions of motion, elasticity, or dependence," and all beautiful lines may be said to be borrowed from nature, though they are of course fairly called *abstract* if they do not suggest any natural object; just as, conversely, we may attribute to objects beauty of abstract line if the lines are such as would appear beautiful even in abstraction. Constant variation then, and not regularity, is the essential feature: otherwise straight lines and circles would be the most, instead of the least, beautiful of the lines which the eye can easily follow. In *Modern Painters* there is a suggestion that these ever-varying curves are typical of infinity; but it would be hard to lay much stress on this point, and their expression of action or force is probably more truly at the root of the matter. Even this more definite kind of suggestiveness, however, marks a great difference from the associational sources of pleasure in human and natural beauty: it results not from a slowly gathering accumulation of simple experiences, but from abstract conceptions only possible to a highly developed imagination. But it has the same negative characteristic—remoteness from any order or plan, from any formulae of intellectual cognition; nor could any rule about it have been suggested *à priori* by even the most complete knowledge of general mental processes.

If now we turn to the other sort of abstract forms, those presented by music, the difficulty seems in every way greater, since for these not only is there no sort of foundation or suggestion in the phenomena of nature, but all reference to the external world in the way of utility and convenience is also

absent. What then is left, it may be asked, except proportional relations; and does it not seem that the secret of our pleasure, so far as it is more than simply sensuous, must lie in divining (or, according to Helmholtz, half-divining) the complicated plan of their adjustment? The answer to this question requires an exact appreciation of the nature and *differentia* of melodic forms.

The impressions on the retina are of *space* in two dimensions: in these two dimensions all visual form is necessarily perceived, and, as they are absolutely homogeneous, the eye is concerned only with perfectly *homogeneous* impressions of line and surface. But *time*, in which audible phenomena take place, has only one dimension, capable indeed by metrical division of exercising our powers of co-ordination and so presenting formed groups, but groups which in isolation are of a very bald and unemotional kind, and entail but a slight advance on the facts of mere nerve-stimulation common to many of the lower animals: and what in music takes the place of the second dimension is a totally different and unique element—the graduated scale of *pitch*. Thus the form of a melody is the product of two lines of perfectly *heterogeneous* impressions, each meaningless alone; a line of sounds and silences, each of a certain duration (arranged on a framework of accents), and a line of tones each of a certain pitch. The form is at every instant the resultant of the two factors, and the dimensions (so to speak) being incommensurable, it cannot be strictly compared to a curve with two co-ordinates and an equation. Consequently no sort of true visual parallel is conceivable, and such analogies of curves and loops as occasionally suggest themselves merely tantalise by their feebleness. Naturally also an explanation of the precise effect of this or that melody is as much lacking as a satisfactory analogy; and fewer would have been attempted had the absolute inter-dependence of the factors of time and pitch been fully realised. For instance, we see a characteristic of one of the factors—pitch—taken as though it covered the whole ground, and we are told that good melody depends on frequent use of the successive notes of the natural scale, or that the skips are from one note to a nearly related note. Now, neglecting the continual exceptions and granting the perpetual occurrence of such progressions, we of course perceive, on reflection, not only that they are as common in bad tunes as in good, but that for each intelligible melody or succession of notes in which they are exemplified, we can, while still employing them, make a million of meaningless ones. So with the factor of rhythm: though metrical balance is as essential to a tune as symmetry to a face, we see that notes may be metrically strung together without presenting anything we could call a melodic form.

Such then being the nature of melodic forms, we may now conveniently remark how they differ from all others. (1) The mere material out of which they are made, *i.e.*, musical tones, is unique in our experience, quite apart from the use made of it. The sensation of musical tone is not presented to the ear by any natural phenomena, even the natural voices of men and animals containing but little of it: it is a sensation produced on exceptional occasions by exceptional means (primarily of course by the "singing" voice), and in early stages of development is probably extremely exciting in itself. That is, the mere producing and hearing of isolated sounds and cries with some musical *timbre* in them would be exciting and enjoyable, without any connexion, or with the slightest and most rudimentary connexion between them. (2) The forms when they occur, and so far as they are impressive, are each wholly new and unique things, not like new postures or alterations and reminiscences of known things. (3) With music, as soon as it can be called such, is associated the sense of motion, with all its powers of physical stimulation. This head, together with the first, does something to explain the fact that, while enjoyment of abstract visual form is a very late product, enjoyment of successions of musical sounds characterises the lowest savages. (4) Precision and definiteness is a marked characteristic of musical forms: this is due to the employment of fixed degrees both of time and pitch, and makes possible an extreme distinctness of individuality. (5) The continuous looking forward and expecting (exemplified in a very simple form in watching the approach to certain tonic landmarks) affords a partial explanation of the *excitement* of music, as marked off from anything that could be given by the impressions perceived simultaneously in space. (6) There are associational elements connected with the primæval use of musical sounds under the influence of sexual emotion, which I have discussed elsewhere: and (7) probably some dim connexion with the phenomenon of speech, owing to the identical feature of a succession of changing sounds, contributes to the effect which melody produces of being *something said*, an utterance of definite significance. These sixth and seventh heads however (like the first) relate to the general impressiveness of phenomena presented in the material of tone, and do not really touch the special nature of the forms. And when we examine our perception of melody, the other heads, though characteristic, seem to take us only a little way. Nor here can we get any trace of such an explanation as was afforded us in the case of architecture by mechanical and dynamical facts: in buildings we perceive a wrongness in top-heaviness and lop-sidedness, a strength in solidity and balance, a weakness in absurd tenuity of shaft, from

our experience of things giving way and falling: in music we *feel* strength and weakness where no associations of standing firm or toppling over can possibly come in.

The problem then remains, by what alchemy are abstract forms of sound, however unique and definite and however enhanced in effect by the watching of their evolution moment by moment, capable of transformation into phenomena whose appeal ranges from elementary and describable qualities of pathos or gaiety to phases where separate emotions seem as fused and lost as the colours in a ray of white light; and it is one which will probably always defy solution. The only conceivable explanation indeed would be analogy, and we know not where to look for it. Since sight and hearing are the only senses by which we perceive abstract forms at all, we are, in speaking of either, reduced to a single line of things for illustration or contrast. If we had a few more senses, yielding such impressions as could be co-ordinated and unified into wholly new kinds of forms, so that the inadequacy of curves to express melodies was paralleled by several other examples, we might find it easier to realise that the contemplation of the various forms involved mental and ideal elements special for each class of phenomena, irreducible therefore under any such general rule as we could call an explanation, and that what we loosely call a sense of proportion is of a protean character.

Taking part in these free and tantalising musical forms there are present of course the most marked elements of order and regularity, which are analogous to the regularity we noticed in human beauty and in architecture. The ever-changing evolution of a melody takes place on a basis of regular accents, as natural as the two eyes, two arms, and two legs of a human being, or as the symmetrical columns which support a springing arch, and, apart from other elements, as little able as they to account for the beauty into which it enters. For in music, too, as in the other regions, the self-same regularity is compatible with weak and ugly forms: bar corresponds to bar, as eye to eye, but, whether it be face or melody, the beauty essentially depends on the subtly individual forms of each component part. The special varieties of the element of order in music are worth noting in passing. They are (1) the fixity of the degrees in time and in pitch. On examination this seems essential, as it is certainly universal. Since the parts of time cannot, from their very nature, be compared contemporaneously, their variety would be chaotic but for a fixed scale of subdivision: and we have seen that, since time is of one dimension, form or curvature (to use the one conceivable metaphor) is only possible through variations of pitch. Pitch again is only of one dimension, up and down; and

though there are perceptible differences along the line, and so possibilities of contrast, yet as the changes can only take place in succession, time cannot be kept out, and will appear as chaotic unless regularly divided; there is no *via media*. As then the changes of pitch, up or down, are stopped at definite instants, definite points of pitch must necessarily be presented at those instants: and the actual points available for use are given by a system of intervals which has its roots in ultimate physiological facts. (2) Perfect regularity in the succession of main accents. (3) The duality of balance, the building-up of a phrase by subordinate phrases containing equal numbers of bars. This law rests on the facts of our physical symmetry, and I have discussed it elsewhere.

So prominent in music, as in architecture, are the elements of order and regularity, while in these arts there is often no radical objective distinction between subsidiary organisms and larger combinations, that in respect of them one cannot wonder at a view like that of Helmholtz, which tries to follow the "order" right down from the general arrangement of the work to where it is lost to view, and divines a "plan" pervading the domain which we have seen to belong to free form. The subject will receive further elucidation if we now examine the special manner in which Helmholtz connects what he considers as the main aesthetic problem with the results of his work on Sound. His difficulty, we saw, was the supposed existence in a work of art of a reasonable plan, which nevertheless eluded observation: he considers that this difficulty is relieved by the fact that in the subordinate sphere of musical tones and harmony the enigma is actually solved. The relationship of consecutive tones has been found to depend on their possession of some common harmonic or harmonics, not consciously perceived as such except by careful scrutiny and practice; and somewhat similarly the close relationship of consecutive chords depends on their possession of some common note or notes, which again may be quite unperceived by an uninitiated hearer in spite of his perfectly apprehending the natural and easy sequence of the chords. By the presence then of these links, essential though so commonly undetected, "the aesthetic problem is referred to the common property of all sense-perceptions, namely, the apprehension of compound aggregates of sensations as symbols of simple external objects, without analysing them".

The above attempt to define melodic form may perhaps suggest the difficulty presented in this account. The *rationale* of relationship of notes in pitch is known, thanks mainly to Helmholtz; that is, it is known generally what notes present links of connexion with other notes. But this goes no further in

accounting for the beauty of the free form than the possession of convenient stones and plenty of cement would go in explaining Giotto's tower. The relation of note to note is parallel to the fact that one stone rests naturally on or is firmly bound to another: such facts of course make the effect possible, but they do not account for it. You may analyse the structure of an arch or of a tune by pulling it to pieces: but you cannot so analyse its aesthetic character. The *reasonableness* which underlay the gradual formation of our diatonic scales (and so gave us our stones of convenient sizes and angles) fails helplessly when we try to read it into a free melodic form. The all-important fact that the notes-in-pitch would be formless if the lengths-in-time and the rhythmic accentuation were altered, has been already noticed: but even neglecting this, if we look only at the pitch-element, no view of *reasonable* connexions will cover a single one of the existent melodic forms, infinite as they are in number and variety of merit. The degrees of relationship, if stated numerically, would present to the mind no kind of plan or order: more and less distant relationships seem (as far as *reason* goes) jumbled up promiscuously; and till the unique phenomenon of the formed series, the unity, presents itself to the musical sense, no guess could have been made as to whether it would be sense or gibberish. One instance may suffice: there is a beautiful air in *Fra Diavolo* which begins with a series of ascending sixths and descending sevenths; the one interval means a tolerably close relationship between the two notes composing it, the other a distant one; yet the sevenths of course enter as essentially into the form as the sixths. If we make each relationship nearer, and substitute fifths for sixths, and sixths for sevenths, it looks as if we ought to get something more *reasonable*: but the beauty will unfortunately be found to have vanished. "The *contrast* was essential," some one may say. Clearly it was *here*: but then we take another tune and equally ruin *it* by just the opposite sort of change in its intervals. Reason must give it up. The power and method of co-ordination is not something abstractable from the phenomenon: we do not know we can co-ordinate tones till we perceive a melodic strain as a unity; we can form no prophecy about its composition till it is there; and obscure as is the secret of its impressiveness we refer it, if at all, to *primaeva* association, to suggestions of strength, of expansion, of free and sublimated motion, not to the connexions of its parts, or relations and adjustments supposed to be penetrable by a more complete and powerful intelligence. It is of course begging the question to call a form reasonable because we first find it beautiful: that is an argument drawn from our own sanity, not from the nature of the phenomenon. When we examine the parts we find reasonableness in the same

sense as we find it in a chemical formula which we construct on paper so as not to contradict the atomic theory, and beauty of form is as little a necessary result in the one case as an actually existent substance in the other: it is in virtue of something beyond such conformances that a tune is a tune, and sugar sugar.

The application of the idea of *plan* to single abstract forms seems in fact to involve a radical confusion. A plan implies an end in view. An architect plans the arrangement of his building with a view to certain effects, and ordinarily to certain uses. A composer, though untrammelled by utility, has still his object, and in writing any composition longer than a single melody arranges it so as to introduce his themes with due emphasis and contrast, to develop and interweave them, and to round them off into a larger sort of completeness. The end is to combine a number of impressive things into coherence, so that each shall seem in its place and stand out at its best: but when we come down to the impressive things themselves, the purely musical forms or ideas, no *end* can be imagined until it has ceased to be an end, and is *there*; a thing which is essentially new, free and individual, is out of all relation to *intelligent* adjustment of parts. A plan by which parts are grouped implies laws with a generality of application extending beyond the particular art, or at any rate beyond the particular manifestation; it cannot underlie the essential individuality of that particular manifestation, and all our efforts to penetrate this only make it recur again and again to account for itself; no fiction of adaptation or conformity will turn it inside out for us. So also in the invention of melodies, if they do not suggest themselves in a flash, the struggle is towards the *whole* form, or at the very least whole organic phrases of it, surmised as through a veil: they gradually clarify into distinctness and are seized; but the process is not of adding brick to brick, but resembles rather the freeing of a statue from a rough semi-shapeless block. It appears to me, indeed, that if we ignore the positive effects of abstract forms and if, remembering merely their negative character of not representing objects, we set to work to imagine *a priori* some plan which shall underlie them and shall be justifiable to the intelligence, we are tied up to symmetry more or less complex, and nothing else. For symmetry is entrenched, as it were, and could call on any divergence to defend itself; and if no intelligible end or aim is proposed, divergence could never make good its cause to the reason. The justification of *freedom*, the certainty of the *right* irregularity or *ἀσυμμέτρεια*, as distinguished from a million possible *wrong* irregularities or *ἀσυμμέτρειαι*, is only given in the particular non-reasoning act of co-ordination. And though an invisible and transcendental *plan*, pervading a

work of art, is an idea that may momentarily pass muster, we can scarcely say the same for an invisible and transcendental *symmetry*, in the face of the fact that *actual symmetry* and sameness of parts is precisely what free form shows its freedom in departing from.

If then we abandon the notion that the essential beauty of a work of art lies in conformance to an order which impresses us in spite of, or rather because of, our only catching intermittent and imperfect glimpses of it, we see that Helmholtz's comparison of the unperceived reason of simple tone-relationships to the unanalysable element in aesthetic impressiveness, instead of being an instructive analogy, is only the loosest of metaphors. And even in those simple elements, though the possession by the notes of a common factor does constitute a general rule of connexion which may be called reasonable, the reasonableness seems to stand outside aesthetics. If the progression, e.g., from G to C *does* seem to possess any aesthetic character, it is owing to its presenting the faint rudiment or suggestion of a free form. The mere fact that two things possess a common element, whether consciously apprehended or only felt, contains in itself no ground of beauty. If we apply the same perception of relationship in some other region of phenomena, we get not the slightest sense of beauty: we receive no satisfaction, for example, from contemplating a square on one side of which is inscribed a triangle, though the two figures are similarly related by possession of a common element. Nothing could *a priori* have led us to expect that in connexion with one set of sense-impressions a string of such resemblances more and less distant would be a factor in an absolutely new phenomenon, a free form. And if any further proof were needed that the relationship of the notes is a necessary characteristic of the material of music and not an explanation of its beauty, it would be found in this, that just as the same bricks may be used over and over again to build many different forms, without its ever being discovered that they are the same, so instances of the same notes occurring in the same proximities occur in melody after melody, but the forms being wholly different the fact never obtrudes itself. Nor can we feel the following illustration which Helmholtz gives as anything but delusive. He says that "when a father and daughter are strikingly alike in some well-marked feature as the nose or forehead, we observe it at once and think no more about it; but if the resemblance is so enigmatically concealed that we cannot detect it, we are fascinated"; and that if a painter in drawing the two heads combined a difference of expression with this indefinable resemblance, we should prize the effect as a high proof of his skill. But here our pleasure (1) would not be evoked if the

faces were not intrinsically interesting ; (2) is dependent on most complex human emotions. In the supposed case, not only would our imagination be occupied with the human relationship of the persons, but we should be comparing two highly organic forms or units, whose interest to us is connected, as we have seen, with a prolonged course of varied experience and association ; and the right musical analogy would be two organic melodies, quite different and yet intuitively perceived to be by the same composer ; not two simple and ultimate sensations, the perception of whose resemblance or relationship involves the very minimum of co-ordination. We seem then to find, even in this rudimentary phase of co-ordinative action, fresh support for our main position : just because the principle of tone-connexion, the principle of the perceptible connexion of two things through their joint possession of a common part, is reasonable—is applicable, that is, in many different ways, thus implying some *general* mode and habit of apprehension—it is easy to show from other instances that such a general mode of apprehension in no way entails aesthetic pleasure. Down in this elementary region of what, to revert to our old metaphor, we must call the masonry, not the architecture, of music, as formerly in the symmetry which was seen to be in so many directions a necessary and conditioning attribute of beauty, we have found an order which reason can apprehend. But underneath and compatible with such order and attributes we have found everywhere an essence and a freedom inexplicable by and unconnected with reason : and the mental processes involved, whether connected with imaginable and definable associations, or with obscure and inexplicable suggestions, seem to lead us in every case into a sort of *cul-de-sac* where the phenomena, however linked together by their emotional effect on us, appear objectively as ultimate as the simplest sense-perceptions.

In conclusion, I would suggest that the indefinable ideas of expansion and infinity which seem so often to be a feature of the highest aesthetic emotions do not necessarily connect themselves with the grounds laid down by Helmholtz. It appears to me that the surmise is not of infinite arrangement and order in the work contemplated, objective facts to be more and more comprehended and appreciated by increased intelligence ; but of infinite potentialities in one's own being, subjective facts to the apprehension of which in special experiences the windows of the soul seem momentarily opened. Such unity as is surmised in connexion with the subjective exaltation is not a unity of law or plan, supposed to lurk hidden in the special work, but is a general unity in the whole range of the phenomena which cause us lofty emotions, corresponding to the persistent unity of our

own *ego*; for this *ego* is inevitably led dimly to divine hidden relations between things which are akin in having deeply impressed itself.

EDMUND GURNEY.

IV.—ON CAUSATION.

THE ordinary notion of causation, with which we must begin as a preliminary, may be taken to consist of two essentials, first, the notion of power or efficacy, and second, the order or rule under which that power works. Neither of these alone constitutes causation, and at the same time nothing else but these is requisite. Neither alone is sufficient; for take power alone, and there is nothing to connect it either with cause or with effect, and therefore nothing to connect cause and effect with each other; some order or rule of the power is required. So with order or rule taken alone; it is not the order in causation, unless some movement or change is pre-supposed in the phenomena, of which it is the order. The order of the squares on a chessboard is not an order of causation.

Again, nothing else but these two notions is requisite. To include the notion of originating in the efficacy, and thus transform it into creative efficacy, or to include necessity or uniformity in the notion of the rule, would be including too much. These notions may possibly turn out to be legitimately derived from that of causation (of this I say nothing at present), but they are not *prima facie* included in it. They are not suggested to the non-speculative mind by the word, and therefore not required to be justified as valid, in order to justify the ordinary notion of causation.

What I propose to do in the present paper is, first, to examine the ordinary notion of causation, and see what it logically includes, supposing it to be a valid notion; in the next place to see in what that validity consists, and what the range over which it extends. Having done this, the result may be summed up in a definition or set of definitions, supplementary to the analysis which we shall obtain of causation.

This task is naturally and, in my opinion, inevitably reserved for that method or school of philosophy which is content with simple analysis of phenomena on their subjective side, content to occupy the position of a critical spectator of the panorama of experience, without theorising about its origin. The reason of this may be stated in few words. Modern absolutism assumes as an ultimate notion,—assumes, that is, as something which, not needing explanation itself, contributes to explain everything

else,—either the notion of efficacy itself, or some special mode of it, efficacy or power being, as we have seen, one of the two constituents of causation. It cannot therefore be competent to explain the notion of causation, when it accounts for one of its essential ingredients by an *assumption* which involves it.

Take, for instance, philosophical Materialism, which is an absolutist doctrine. It assumes, over and above phenomenal force, which is always reducible to an expression in terms of the relative positions and motions of portions of matter, another force not apprehensible *per se*, which is supposed to be either inherent in matter, or, if prior to it, to issue in its formation and produce its changes. Take Hegelianism, which is an idealistic absolutism. It assumes an efficacy in pure Thought, by which *Nothing becomes Being*. Take Schopenhauer's or Von Hartmann's theories, in which a creative efficacy is ascribed to Will. Now, however different these theories may be among themselves, and whatever may be alleged in their favour in other respects, a question which this is not the place to discuss, one thing is true of them in common, and that is, that since they all assume, as an ultimate source of explanation, the notion of unconditioned efficacy, they cannot be competent to examine the validity of the notion of causation, of which efficacy is an essential constituent. It is open to them to examine its other constituent, the notion of order or rule; but causation as a whole is closed to them by their own act.

Nor is it open to them to plead, and this is important, that what they assume is merely the *phenomenon* of change or motion, which for convenience may be summed up in the term power or efficacy, that they merely take the phenomena as they find them, and that they find them with change and motion inseparably involved in them. That indeed is true, but it is not true that they assume no more than that. When they assert not merely power or efficacy in the abstract, but a particular mode of it (for Force, Thought, Will, are such particular modes), as part of their ultimate account of existence, they show plainly that they assume more than the phenomena alone contain. And where, I would ask, has been given the proof, by Materialist or by Idealist, that his particular mode of efficacy is a necessary and ultimate reality; where is the assumption of it justified as a necessary element of all philosophical explanation?

The question, then, escapes the Creationists and falls into the hands of the Critics. What does the critical school make of it? Hitherto not much, I am bound to admit, judging at least by one of its latest attempts at solution, Mr. T. S. Barrett's *Philosophy of Science* (2nd edition, 1872). His solution is, that the notion of power or efficacy in causation is analysable into

the notion of logical (which is also conditional) necessity (pp. 120, 124, and 131); and that to this extent, that is to say so far as *observation* warrants our logic (p. 134), our logic warrants the attribution of causal necessity to phenomena objectively, in opposition to Hume's doctrine that the attribution in question was wholly illegitimate, being an illogical result of habit and custom.

But this is no real solution, for two reasons. First, it is not final, for if causal efficacy is a creature of logical necessity, a further need arises for an analysis of logical necessity. And secondly, its range is limited, for only so far as *observation* bears it out is the attribution of necessity to *phenomena* justified. The professed solution lands us and leaves us in the midst of all the old questions as to the relation between logical and objective necessity, and the limit between legitimate and illegitimate attribution of the latter is left as shadowy as ever. Part of nature would be reduced under the sceptre of law, part left possibly subject to chance. It is a fallacy to make objective necessity depend on logical, and logical on observation, unless you can show in observation itself, prior to logic, at least the rudiments of necessity. Your ultimate source of objective necessity is observation of phenomena, which according to your own account can never yield it, only that this is masked by interposing logical necessity to render the transformation plausible. Logical necessity limited by observation is as illegitimate a source as habit or custom.

Unless, I repeat, you can show in observation itself, prior to logic, the rudiments of necessity;—for there it is that, to my mind, the kernel of the whole matter lies. The necessity in causation is not merely a logical but a metaphysical necessity; it cleaves to sensation and perception, prior to logic and to thought, and it cleaves to every instance of them. It is not *in intellectu* merely, but *in sensu*. It is something which observation does and always will justify, because it is involved in the process of observation itself.

Returning, then, to the two constituents of causation, efficacy and the rule under which it works, let us bring these two face to face with the process of observation. By saying this I mean to put aside the inquiry, what particular phenomena it was which probably gave us our first notion of efficacy, or of rule; whether it was the sense of our own agency in volition which originated the notion of efficacy, which notion we afterwards applied to physical events, or whether the perception of physical force first gave us this notion, and we afterwards applied it to explain volition. Again as to the notion of rule, we need not now inquire whether perceived purpose in our own volitions,

with the perception of the means to their attainment, was the origin of the notion, or on the other hand the observed regularity in physical occurrences.

Let us observe the process of observation as we now have it in our power to do, and with the advantage of previous experience in our minds. Let it be another condition of the inquiry, that we observe the process of observation and not its results, which in other words is to observe the subjective side of the process, as a series of states of consciousness, not the objective side, as a series of objective events. Phenomena objectively taken give no indication of the *nexus* between them. It is in vain to look in that direction for the rule in causation. This is now admitted on all hands. But, taking the stream of states of consciousness as our object, let us see whether we do not find both efficacy and rule involved in it, and that in such a shape as to show them to be the rudiments of necessity and uniformity.

Yet another condition. There is one feature in the process of observation, subjectively taken, from which we must abstract, in order to satisfy the requirement of its being *prior to logic*. The process of observation is already a logical process, being a volitional one. We must therefore abstract from the element of attention for the purpose of knowing, which is its logical element, if we would see whether, in what remains of it, the rudiments of causation can be found. We must take the process of observation and reduce it to a process of what I have elsewhere called spontaneous redintegration, in order to see whether it contains a *nexus* between its states of consciousness, which is the foundation of the causal nexus.

I think I shall then be able to show, that *efficacy* which consists in the irresistibility and continuity of the stream of consciousness, and *rule* which consists in the fact that the stream, though continuous, is distinguished into portions by similarity as well as difference in the states composing it, are together the rudiments of the full notion of necessary and uniform causation.

But before entering on this examination, it will be better to make another approach from the side of cause, in order to see more precisely what it is that we are required to find in the rudimentary stream of consciousness. When we ask for the cause of anything, we are asking for some particular circumstance or combination of circumstances, upon which the effect in question depends; we are not asking for the *whole* set of circumstances of which the effect is a *part*. We want some circumstance or combination of circumstances to be singled out from the whole, and shown to be that upon the occurrence of

which the effect occurs, no matter what the other circumstances may be. It is a partial inquiry into the dependence of one part of the whole upon another part of the whole.

We may make this inquiry in two ways, which may be distinguished as judicial and scientific. In judicial inquiries we want to know the single cause of a single effect, for instance, the cause of A's death. In scientific inquiries we want to know the common cause of a common effect, for instance, what gives fire its power of burning wood, in all the cases where fire and wood are found. But alike in both kinds of inquiry the dependence between cause and effect is a particular one, in the sense that we are asking for one circumstance or set of circumstances, whether these are repeated in several similar cases, or are found only in a single case. We leave apart, as being outside causation and irrelevant to our purpose, the inquiry what the *other* circumstances may be in which fire is found, e.g., whether it is in London or in Paris, and seek to discover only those circumstances which determine its burning quality.

There is clearly some dependence, some *nexus*, between cause and effect, which we call causation; the question is, in what does it consist? Some have recourse for an answer to the notion of efficacy; others to that of rule. That causation is efficacy operating under rule is clear, but in *which* of the two notions are we to look for the source of the causal *nexus*? Kant's answer was, in the *efficacy*, which notion we import *a priori* into phenomena from a category or form of thought involved in all mental action. In virtue of this alone we can say "the sun warms the stone," as distinguished from "the sun shines and the stone gets warm". The Humean answer is, in the *rule*, which we get *a posteriori* from observing phenomena to be regular, and upon which we, by force of habit, superinduce illogically the notion of efficacy.

Upon Kant's answer arises the further question—How comes the mind by its category? Upon Hume's,—How come phenomena to be regular? To which questions I know not that any answer has yet been given, unless it be by the *assumptions* which are made by the materialistic and idealistic absolutists respectively, as was shown at the outset of this paper. Nor, I think, can any answer be given, so long as we keep within the lines of the partial view in which, as we have seen, the question arose. Just as we can never see a reason or causal *nexus*, other than sequence or co-existence, between this particular phenomenon and that, say between fire and its burning of wood, so neither can we see any between this instance of its burning wood and that instance of it—any reason why the event should happen in that way twice, merely because it has happened so once.

Two things are requisite: we must go back to the perceptual order from the conceptual, and we must extend the instance of the perceptual order till it embraces the whole history of the universe. I mean by this, that we must first take the *judicial* way of inquiry as distinguished from the *scientific*, and secondly that we must consider the particular event under discussion as occupying its *one* place in the whole series of events which is the history of the universe.

Take for instance the cause of combustion of wood. It will not help us to put the question as one into the *invariable antecedents* of the combustion of wood. *Combustion of wood* is a general term covering innumerable instances, each of which has antecedents of its own. If you had discovered the invariable antecedents of the combustion of wood, they also would be described by a general term covering innumerable instances. The general term for the cause and the general term for the effect are short-hand ways of expressing the whole series of instances which each of them covers. They stand for these instances, and the truth of propositions concerning them depends on the truth of propositions concerning the instances which they cover. No doctrine is more strongly insisted on by the inductive experientialists than this. It is in vain to expect to find the secret of causation by any juggling with the symbol apart from the things symbolised. General terms, as they are (perhaps improperly) called, cannot as such disclose the causal nexus. If it is to be disclosed at all, it must be by the particulars which the general terms represent. In other words, we must go back to the perceptual, instead of keeping to the conceptual order, to the judicial instead of the scientific order of inquiry.

But in this order, one event has one and only one possible cause, one and only one combination of circumstances, upon which it rises on the scene of being. To imagine that a plurality of causes for one and the same event is possible, is to be deluded by the fallacy of taking the general term, by which the effect is described, for the name of a single event, when in reality it covers an indefinite number of events describable by the same name; the combustion of wood, for instance, as a single instead of an indefinitely plural event. *Then*, no doubt, it is true that a plurality of causes is possible, and not only possible but necessary, one for each case of combustion. If however the event is really single, that is, is taken as the object of *perception*, e.g., A's death, then it has and can have but one combination of circumstances as its cause; and that one combination of circumstances no other than this single and sole effect.

Farther, our ignorance of the combination of circumstances

causing A's death, which renders us liable to fall into the fallacy of considering a plurality of causes possible, and which gives rise to the rule of logic, *posito consequente nihil probatur*,—this our ignorance of the cause would be removed, if we had a more determinate knowledge of the effect as an event *in perception*. The more complete knowledge of the physical circumstances composing the event of A's dying would go far in most cases to reveal the circumstances which immediately preceded and accompanied them. The effect would be seen as growing out of its cause, the cause as being transformed into its effect, so that the distinction between them which is drawn by the instrumentality of language would appear what it is, a coarse and clumsy artifice, inadequate even as an expression of our thoughts in conceptual order, the creature of which it is; how much more inadequate then to give back the infinite subtlety and the infinite variety of the perceptual order, of that order which is nature herself.

Names are the creatures of the modification of perceptions by thought, and the objects or events which they signify are roughly hewn, roughly kneaded, compositions of perceptions, on the principle of classing like with like, and excluding unlike perceptions. The excluded perceptions really belong to the individual objects marked by general names, though the name excludes them. "Death" for instance is a general name, marking certain common features of every particular case. It is only by saying "A's death" that we can mark the fact of its singularity, because we know from other sources, that this is an event which can occur but once. But the same thing is true of every event and every object that can be named. Nothing occurs more than once.

Again, when by considerations like the foregoing we have restored their perceptual meaning to general names, and so take the objects signified by them as single objects of perception, even then the objects so signified are rough and coarse masses, of which but one or two prominent features are indicated by the names, the rest being left as it were in shadow. The subtlety and variety of nature is not seen in them, but merely suspected. We do not perceive it as it is, but make the discovery of it as it is the purpose of our study. It is a mass of perception which we *might* have, but have not. We know it in outline only, or rather we know it as an indefinite outline wavering round a prominent point which is the circumstance from which the name of it is taken. "A's death" is the mass of phenomena immediately preceding and immediately following what we call the *moment* of death.

Every object or event, then, for the cause of which we ask, is

a mass of perceptions occupying some portion of time ; and the circumstance of its having duration explains why it is that causes are simultaneous or co-existent with their effects, as well as previous to them. For unless other circumstances continued to exist, along with those which we call the effect, and besides those which have preceded it, the effect also would cease. In building a house, there are actions of the builder which precede his actual raising of the walls ; he handles the bricks before he lays them ; but the ground on which the house stands continues to exist during and after the whole process of building. In other words, causes are concomitant as well as antecedent to their effects.

Why then do we usually speak of them as antecedent only ? For the same reason which leads us to characterise them as *invariable* antecedents, namely, that in asking for a cause we not only adopt a partial point of view, but we adopt the order of thought, instead of perception, in putting the question. We first separate the effect in thought, and then ask what must be pre-supposed in order that we may *understand* its arising. We ask for a cause which may render it intelligible, and then treat this cause, which is previous to our understanding the effect, as if it were also previous to the production of it. When, however, we see that perception, not thought, is decisive, then we speak no longer either of antecedent or invariable antecedent as synonymous with cause ; we speak of *conditions* antecedent and co-existent. The distinction of the two classes, antecedent and co-existent, makes us break up the unity of our previous conception of *cause*, which is always an unity, and replace it by the conception of condition, which admits of plurality.

These are not the only consequences of adopting the conceptual instead of the perceptual order of thought in discussing causation. Another consequence is the divergence of men of science as to what is really intended by the tenet of the uniformity of nature. One man holds it to mean that the same conditions will invariably be followed or accompanied by the same results, *e.g.*, that the boiling point of water will always be 212° F., *if* water remains water, *if* it continues subject to an atmospheric pressure of 15 lbs. to the square inch of surface, and so on ;—which gives the tenet all the undeniable validity of an identical proposition, but only at the cost of withdrawing from the range of its positive assertion all facts which can be regarded as conditions, that is to say, virtually, all facts whatever.

Another maintains that much more than this is intended by the tenet, namely, that water *will* remain water, that it *will* continue subject to an atmospheric pressure of 15 lbs. to the square inch of surface, &c., and that the boiling point of water *will* conse-

quently remain 212° F.;—which renders the tenet indemonstrable, except so far as it is a mere record of past experience.

The reason of this divergence is, that both parties take *sameness* in a sense exclusive of difference, that is, in its logical and not its perceptual sense; and then the one sees that the sameness of the conditions involves the sameness of the results, the other that difference in the conditions can be only hypothetically excluded from the phenomena. Difference as well as sameness is involved in every sequence of phenomena; and it is the sameness *in the midst of difference* that is the ground of uniformity. Without difference there could be no change; but change is of the essence of nature. The sameness attributed to the laws of nature, therefore, can mean only a high degree of similarity between the phenomena and phenomenal relations of which those laws are the expression. How much variety and newness, how much similarity and repetition, are to be expected in nature, where we have not had actual experience, is a thing to be judged of by inductive *a posteriori* methods. Who can tell, for instance, whether the boiling point of water will be subject to change, within what limits of degree, and whether the change will be sudden or secular, except by probabilities founded on observation and experiment?

In this way it is that we arrive at what has been called the *material continuity* of nature, the graduation of its changes,—*natura non facit saltum, non patitur hiatus*. And this law or principle of material continuity is, I think, the practically serviceable outcome of the tenet of uniformity, since it is applicable to the unknown content of nature, and not merely, like uniformity, to the form or framework of nature, which is known of every part alike, because involved in every instance of knowing.

The tenet of uniformity, if it is to have any significance at all, cannot be taken either to exclude the possibility of change in phenomena, or to exclude it only by a logical hypothesis. Taken in the first sense, it would not be true; taken in the second sense, it would not be an objective fact of nature. What then is the sense in which it is both true and an objective fact of nature? It can be only this: as we find perfect sameness between two phenomena only when we reduce them in thought to *one* phenomenon, for nothing short of this excludes objective difference between them, so with the course of nature as a whole, there is no strict sameness in it, until you consider that it is the one and only course of nature in existence. It has an identity equal to that expressed by the logical Postulate of Identity, *A is A*. At the same time, all its parts are necessarily connected one with another, including the similarities which are observed between

them. And these similarities, in the midst of dissimilarities, are what is meant by uniformity. But the uniformity is perceived as necessary and objective, only by being perceived to be contained in and to form part of the analysis of the whole course of nature, as one and the same course. This view of things brings us back to the perceptual order, which, as already said, is the order of nature itself, subsisting before and subsisting after *our* modification of it into general terms, by logical processes based on *A is A*, which is the point of contact between perception and thought.

Imagine a curtain, as at a theatre, painted with variously coloured stars, gradually unrolled and half-way lowered; and let its unrolling represent the course of time from past to present, and the stars the individual objects and events which compose experience and are the content of time. The lowest horizontal line of stars, which is the latest unrolled into view, will stand for the effects last produced, the world as we actually see it, and each star may be imagined as receiving rays from some or all of the stars in the line above, and as both giving and receiving rays in interchange with those right and left of it, in the same line. The stars are objects of perception; and those stars from which rays come to others are the conditions of those others. The stars again which are the conditions of these are the remoter conditions of those. And the whole surface of stars is one network of causes and effects, the stars in each line containing the antecedent conditions of the stars in the line below it, and the stars in the same line containing the concomitant conditions of each other. The efficacy of the conditions consists in the fact of the unrolling of the curtain; the rule which it follows consists in each star having its own place and no other upon the surface of it; and the necessity of the rule in the fact that, owing to the continuity of Time, there is no Universe but one.

Still it may possibly be asked, But whence the uniformity, whence the regularity? You have shown, it may be said, that the rule by which objects and events take their place on the scene of existence is a reality, but it would be equally a reality whatever might be the character of its content, if it were chaotic equally as if it were regular and uniform? What is the reason of its being regular and uniform? We are still in want of an answer to that question which arises, as noted above, upon Hume's view of causation. True, the mind is capable of perceiving similarity and difference, of retaining and comparing its impressions, of classing similars together and so forming the individual objects of experience, such as fire, wood, and burning. But that is not the question. Neither is it the question, how there comes to be *necessity* in the order of phenomena, for this

there might be if nothing ever recurred again, but the phenomena were a series of units totally different from each other, without any similarity in their difference. But the present question is this,—How comes the series of impressions to be such that similarity as well as dissimilarity can be observed in them, and again, such that sequences between them are observable as similar? This question seems to hunt the problem into its last retreat. Let us therefore pay exact attention to the process of observing similarity and difference; which brings us back to the point from which we diverged at p. 503, in order to make a second approach to this the main question.

The process of observation includes voluntary attention to states of consciousness, which are only then said to be observed, when we bestow that attention upon them. But what states of consciousness are those which we observe? Do they consist only of what Hume called *impressions*, or do they also contain what he called *ideas* of impressions? It is plain that they include both. For an impression continually recurs, and its recurrence is an idea, as for instance, when I think of a friend immediately after he has left the room. The idea is similar to the impression. When I see him again, I have an impression, and now the impression is similar to the idea. Though impressions are the sources of ideas, yet I cannot compare the impressions made by a single thing without comparing an impression with an idea. Time carries away, as it brings, our impressions, and transforms them into ideas. The train of what I have called spontaneous redintegration, a train of states of consciousness previous to paying it any conscious attention for the purpose of classification, previous to thought being exercised upon it, is the true object of observation, and not the impressions alone which are the sources of the train. We never have impressions unmixed with ideas; they do not come isolated, but bound into a train by ideas which connect them. Our earliest trains of consciousness include ideas as well as impressions, memories as well as presentations. If they did not, the result would be that we should have no unity of consciousness. There would be, in place of a train of consciousness, a succession of separate states of consciousness without any nexus between them, and one in which the perception of self could not possibly arise.

Not that the perception of self is given by the mere fact of consciousness being a train, still less that the perception of self is the condition of its being so, as some idealists hold. On the contrary, that consciousness is a train, is the condition of self-consciousness arising in it. Many trains consisting of similar and dissimilar states of consciousness must have existed, before there can arise in one of them a perception having for its content,

or object, the unity of the previous trains. The unity of the trains of spontaneous redintegration, and of the several portions of any one of them, is the fact known as the unity of consciousness; and its existence is the indispensable condition of its being observed and perceived as an object called *self*.

How does this bear upon the question of the ultimate source of uniformity? In this way. Just as the unity in trains of consciousness is the condition of its being perceived as *unity* and called *self*, so the similarity of perceptions contained in trains of spontaneous redintegration is the condition of its being perceived as *similarity* in classifying states of consciousness. Similarity and difference in the perceptions of spontaneous redintegration (which is the most rudimentary shape of consciousness), bound together by the nexus of time, as for instance when an "impression" occurs simultaneously with its "idea," and either together or in sequence with other ideas and impressions, *are* the things about which our question was put,—Whence came they? To ask whence *they* come is to ask whence consciousness altogether and as a whole comes; and this is a question which cannot be asked without getting the answer *from eternity*. Consciousness has no *whence*, for every *whence* must be stated in terms of consciousness.

Observe the difference between the Humian position and the present one, with regard to the source of uniformity in phenomena. To the Humian, uniformity is a particular fact of observation, which requires to be, but never can be, accounted for. To us it is an universal fact of observation, which does not require to be accounted for because it is already found in every instance of that from which alone the account could be drawn, namely, consciousness. Hume saw no necessity in phenomena, probably because in the first instance he expected to find it in the shape of something corresponding to the terms will or force; disappointed there, he turned to the observation of order in phenomena. Humians see no necessary uniformity in phenomena because they expect some logical law to which uniformity may be referred. Both are looking in a wrong direction. The analysis of consciousness furnishes what they ask for, though certainly not what they expect to be told of. They want an answer in terms of will or force or self-evident axiom; but this is not the answer of analysis.

Still it must not be supposed that we find in spontaneous redintegration the necessity and uniformity of nature full-blown. We find there only their rudiments. There is uniformity, but it is not yet seen to be universal; there is necessity, but it is not yet seen to be inevitable. As perception is developed into thought, and consciousness into self-consciousness, and as the

laws of the world are gradually discovered and take their place in our conception of it, so *pari passu* is developed the perception of the full range of the facts of similarity, dissimilarity, sequence, and co-existence, which are found in all rudimentary experience. This experience, which has been called spontaneous redintegration, is a varied stream or moving mosaic of consciousness, in which the continuity of the pieces is the source of our conception of necessity, and their similarity, in the midst of dissimilarity, that of our conception of uniformity.

Without continuity there can be no unity of consciousness; and without *some* similarity at any rate there can be no continuity. Similarity is not confined to the matter or content of consciousness, but belongs to the form of it as well. When, for instance, I run my finger along the edge of the table from corner to corner, I am conscious of a continuous succession of feelings in time, all alike in point of content, being feelings of touch, and all alike in point of form, being feelings occupying space and time. Before arriving at the second corner, my feelings in moving from the first corner have become "ideas," and I compare them with my feelings on approaching the second corner, only by means of memory. The continuity of feeling includes, in this case at any rate, a similarity of form as well as of content. Putting aside however the peculiarity which some feelings have of occupying space, we may say of all feelings alike that they occupy time. And we may represent the continuity of time as a case of similarity, if we assume that feelings come to us originally as different from one another. Even on this assumption, the different feelings have similarity as well as difference, in their alike occupying time. *Some* similarity therefore remains, even when we assume the feelings to be different in their material quality, and at the same time abstract from their continuity. But when we again attend, as we must, to the fact of their continuity, then what was similarity rises into sameness, inasmuch as one continuous time is common to all the different feelings. The sources of the necessity and uniformity of causation, which are also the explication of its two constituent notions, efficacy and rule, are thus closely bound up with each other in the most rudimentary process of consciousness. And these and these only are the answer to the questions,—Whence the regularity, whence the uniformity of nature?

Causation, then, as existing between objective phenomena or "things," is invisible so long as we look at them from the objective side; and becomes visible only when we take them subjectively, as conglomerates of conscious states. We must take causation *as we know it*, just as we must also take "things". Then and then only can their nexus be seen. But it is not the

nexus which the objectivist expected to see. Causation between "things" is just what causation between states of consciousness is, namely, a *relation* between portions of one ever-changing stream of phenomena, to which neither beginning nor end can be assigned. The notion of force, or influence of any kind, moving from or exerted by one object upon another, or originating the train of existences itself, vanishes entirely from this point of view, and is replaced by the relation just spoken of.

But force and influence, it must be added, are quite as invisible from the objective side, as they are from the subjective. If we conceive causation as objective force or influence, then we must regard the objects exerting it as *substantia*, and if we apply this conception to the whole train of existences, we must imagine a hyper-existent *substantia* to exert the original creative force or influence. And both are fictions of the imagination, which have no warrant in facts. On the other hand, the moving mosaic of consciousness affords, when analysed, a sufficient account of our whole notion of causation; and there is no further account possible of the moving mosaic itself, because every account that can be given must be a part of that mosaic, and therefore analysable in the same way.

Before quitting this part of the subject, I will notice a remarkable parallelism, which may throw some little light on the origin of our notion of force. What change is in consciousness, that motion is in physical matter; that is to say, it is its most fundamental state, as change is of consciousness, having no state of rest prior to it, all portions of matter being from the first in motion. The rest which we perceive empirically in matter is a result of motions opposed to each other, and is more properly to be called equilibrium, whether obtaining between masses, as in the balance, or between molecules, as in cohesion.¹

Nor is this conception forbidden by what is known as the *inertia* of matter. This, as it is often falsely understood, is, in the first place, not a percept but a concept, and one without any percept behind it. By this I mean, that, when we try to construe motion in thought, we do so by contrasting it with rest as its condition or correlative in *thought*; and this *thought* of rest we are then tempted to erect into a condition of real motion, calling it *inertia*, though there is nothing prior to motion in matter. *Inertia* properly understood, and according to Newton's explanation (Def. III.), is likewise a concept, but it is not conceived as the condition of motion. It is identified by Newton with *vis insita* or *vis inertiae*, and means that power of resistance (namely,

¹ See Professor P. G. Tait's Lecture on Force, in his *Recent Advances in Physical Science*, p. 359, 2nd edition.

to an external *vis impressa*, if exerted upon it) by which a body perseveres in its state either of rest or of uniform motion in a straight line, and which is always proportional to the mass of the body to which it belongs. This *vis insita* or *inertiae*, says Newton, differs not at all from *inertia* itself, except in our mode of conceiving it; by which I understand him to mean, that the term *inertia* describes the very same thing as a property or attribute of mass, which the term *vis insita*, or *vis inertiae*, describes as an agency of mass, opposed to an external agency, the *vis impressa*.

Thus *inertia* is conceived as the antithesis, not of motion, but of change from any prior state of matter, whatever that state may be; where nothing whatever is asserted about the ultimate or elementary constitution of matter, but the prior state is taken to be, indifferently, either one of empirical rest or one of empirical motion. The change spoken of is between successive states of matter, whereas, if we understood it of its elementary constitution, (as we do, when we erect the correlative *thought* into a *real condition*), we should have to imagine rest and motion simultaneous in every single least particle of it, which is a contradiction. The elementary constitution of matter, if we take it in this isolated way, as we sometimes must, to clear it of cobwebs, includes motion only and not rest; but this involves action and reaction of its parts, and these cover the entire phenomena.

There is therefore no ground for identifying the concept of *inertia*, assumed as an aid to thought in construing either the phenomenon of motion, or that of action and reaction, with the empirical perception of rest; much less for attributing it to matter as its essential property, and as the condition of motion. If it indeed were so, then motion, not being original, would require an originating cause to account for its existence. But as it is, action and reaction, which involve motion, are, so far as we can see, involved in the very existence of matter. Matter in motion being assumed to exist, then the laws of physical nature are the laws of the action and reaction of portions of matter on each other; the motion is the efficacy, the laws are the rule under which it works; and the distinguishing any portions of matter as separate from one another necessitates our conceiving the motions, to which they are subject, as motions belonging to and residing in each several portion; whereby arises the imagination of a *vis insita* and a *vis impressa*, each separated motion becoming particularised as a force or agency exerted by each separated mass.

Action and reaction are, in point of range, co-extensive with the conception of potential and kinetic energy, and they cover the whole phenomena of matter; they are the phenomena. But

inertia, and *force* the cause of motion in it, are fictitious conceptions concerning the supposed elementary constitution of matter, a thing already covered by action and reaction. But they derive their origin, and therefore it is that they possess an appearance of validity, from legitimate conceptions of the same name, which are introduced as part of the machinery of thought in interpreting the phenomena of action and reaction.

We have next to see how a working definition of cause can be framed, supplementary to the analysis of causation, without running counter to any of the results just obtained. First, we must not include (though we need not deny) the notion of force or influence. Secondly, we must frame our definition so as to be applicable to events and objects in their perceptual character, as well as their conceptual, or in other words as considered by the judicial mode of enquiry as well as by the scientific. This requirement will be satisfied if we can omit the notion of invariability in the antecedents, without injuring the universality of the definition. In what quarter shall we look? We must go, I think, to the notion of *condition*, that notion which, as we have seen, admits of plurality; and in order to define a condition, we must look to the character which all conditions bear, namely, their negative, limiting, or *sine qua non* character. The sum of these will then yield the positive character of a cause.

It must be remembered also, that all inquiry into causation is a partial enquiry; it pre-supposes a whole to be already broken up into parts, the connexion of which with each other is what is sought for in causation. Anything considered either as a cause, or as an effect, is taken as an *unit* for the purpose of that consideration; its analysis into parts within its own limits is omitted. Still a conception of causation which could not be extended, so as to be applied within as well as without such an arbitrary distinction as this, when, as we have seen, the texture of consciousness is the same moving mosaic throughout, would be but an imperfect one. We always practically look at a thing as determined not only by what lies outside it, but by its own constitution as well. We look upon the parts of a thing as in some sort determining the whole. Whether the whole may also be held to determine the parts, and in what way, are further questions which it is not here the place to consider. They lead on into another branch of the subject, to Teleology, or the theory of Final Causes, which is not necessary for the consideration of causation as usually understood. And it will be remembered that the curtain of stars, in our illustration, was imagined to be only half unrolled.

Lastly, the conception of causation must be applicable to our knowledge of things, as well as to the things themselves.

Evidences may just as fairly be considered to be causes or conditions of *beliefs*, as events of events; they are in fact subjective events. Causes and conditions of this character are properly called *causæ cognoscendi*; while those of the objective order are called *causæ existendi*. Causes and conditions again, which express the analysis of a whole into its parts, as opposed to the relation of the parts to one another, are a third order of causes. In this order are united the objective and subjective characters of the two former, since we must always take a thing to *be* what its analysis, if complete, would make it *known as being*; and the causes belonging to it are therefore properly to be called *causæ essendi*. Strictly, no doubt, analysis is not causation; still usage has determined that the name and the notion of causation should be applied directly to that distinction, of whole and parts, which was the ground out of which by limitation it sprang, namely, as relation between the parts only.

Our definitions then may be taken thus:

Existendi.

Condition: Something without which another given thing would not exist.

Cause: That combination of its conditions upon the completion of which another given thing begins and continues to exist.

Cognoscendi.

Condition: Something without knowledge of which another given thing would not be known.

Cause: That combination of its conditions upon the completion of which a complete knowledge of another given thing arises.

Essendi.

Condition: Something without possessing which a given thing would not be what it is.

Cause: That combination of its conditions the completion of which is the complete analysis of the thing itself.

These definitions will, I think, be found to satisfy the requirements of the ordinary notion of causation, for they are based on the analysis of those rudimentary trains of consciousness, on which the validity of the notion itself depends. In the ordinary notion of causation is included a positive though always a phenomenal efficacy, not a noumenal one. This positive character of the efficacy is expressed in the definition of cause by the words "begins and continues to exist". It is absent from the definition of condition, where it is merely said that without the condition the effect *would not exist*. The combination of the negative conditions gives them their positive character; yet

without assigning to them a noumenal efficacy of production. The effect occurs as a fact, in immediate sequence to those of the conditions which are antecedent, and in immediate co-existence with those of them which are concomitant; and there is no room, so to speak, for a noumenal efficacy to intervene.

Are then such things as Force, Thought, Will, and Substance, excluded by this analysis from the kingdom of realities? Certainly not. They are phenomenal realities, and as such analysable like everything else. It is only their *explanatory* power over phenomena which the analysis takes from them. We know them no more, the moment they are assumed to account for phenomena in time, for that assumption changes their phenomenal character.

They may be useful, and two of them at least, Will and Thought, are in my opinion even indispensable to help us to formulate our ideas, when we tax our mental vision to the utmost, and try to penetrate as far as we can into the unknown regions of the universe. But this is very different from using them as an explanation of its entire mystery. There are greater things beyond them.

For a long time indeed they have served to round off systems of philosophy, to give a smallness and comprehensibility to the universe. But their best and truest admirers would be consoled for their disappearance, if they reflected that what we thus lose in the apparent comprehensibility of the universe, we gain in another direction, namely, in the richness and extent of the phenomenal universe which replaces theirs. They disappear as noumena existing *behind* phenomena, but only to reappear as ideals *in* phenomena beyond our means of direct investigation. Phenomena lose their supposed anchorage on noumena, but only to have it replaced by the perception that the anchorage is phenomenal also. Let neither friend nor enemy imagine that philosophy is the poorer, or its universe less mysterious, for the change. We no longer assume that *man's ideas* are the measure of all things, that the universe can be explained as the result of force, thought, will, or the substance which is their source,—provided only we add that these are noumenal, not phenomenal. We no longer imagine that we can see the universe from outside, or ask how it came to be there; we submit to look at it from within, where nature has placed us, and where the whole, of which we are a part, appears of infinite variety and magnitude and duration.

Any whole which we see only from the inside is an infinite from that point of view. The universe, which is that whole which we can by no possibility see or construe to thought but from the inside, is the infinite *par excellence*. It is a whole

because it is continuous, and everything else is a part of it. But this does not imply that it has the property, which other wholes have, of being limited on the outside by something not itself. It is a whole when considered in relation to its parts; it is infinite when considered in relation to perceptive consciousness.

It is to the remoter parts of this infinite universe that we refer those ideals which replace the noumenal anchorage. Whether we rightly conceive those ideals, whether our notions of them have *truth*, may be debatable. But of the *reality* of the ideals, that is, of the existence of *something* which we image by their means, there can be no doubt. Is light a fable because moles are blind? Is the universe finite because *we* are limited? The object of our subjective ideals is real, when we provide in thought for the error, imperfection, and ignorance, which our ideals contain.

The popular notion of reality is excessively misty. It is usually confused with the notion of truth; that is to say, we do not usually call a thing real, unless we imagine that we have got the true notion of it in our heads. The object of that supposed true notion we call the real, as opposed to the apparent thing. But in this way of understanding reality, reality vanishes; the notion is suicidal; of no single thing in the world have we the true notion. Truth itself is an *ideal*; and it is suspending reality upon an ideal when we suspend it upon truth. The popular notion needs much correction.

The point where reality and truth are in contact is the point where consciousness is in immediate contact with its object. And that point is the instant of presentative perception. Real existence becomes actual for consciousness at and for that instant; and such instants are the tests of truth in the notions which we form of real existence. Imagine a cog-wheel biting upon another wheel of indefinitely greater radius. The two wheels are in contact at every point successively, as each revolves. So is consciousness with regard to real existence or nature; always in contact with it at a single point, but for the *other* points in the two circumferences left to its memory and its imagination, until, or rather unless, they can be tested in their turn by actual contact. I say *unless*, because here the illustration breaks down; real existence is not finite, and cannot be adequately pictured by a closed circumference; no point in it ever returns again. Similarities and analogies, not strict identities, are the tests which presentation brings.

Now popular thinking tends, in its misty manner, to regard as non-existent whatever cannot be proved to exist in this or that definite way, whatever we cannot prove to be a true conception as well as an existing thing. Until it is *reduced into possession*,

so to speak, existence is regarded as non-existent. And in this way of thinking the popular mind is encouraged by the scientific. For the business of science lies with definite cognitions and definite existences. Those elements of knowledge which are universal and affect all existences alike, and consequently have no *specific* influence on phenomena, are for scientific purposes disregarded, and properly so. But it is otherwise when we come to examine the question between existence and non-existence, and to determine the limits of the former. The possibility of our reducing into possession a particular conception is not the condition of our possessing the knowledge that it exists. For this purpose it is sufficient if we possess an indefinite knowledge of what it is, and of its connexion with other assured parts of our knowledge. It is a *chase in action*, (as lawyers would say), which may be of great value to those whom it concerns.

Of this nature are the ideals under which we picture that real existence which lies beyond the reach of knowledge based on sense-perception alone. Whether it is truly pictured by us or not, it is at any rate a part of the chain of conditions, the same endless chain of causation, of which our visible and material world is a part. It shares its mysterious property of ceaseless change circumscribed by changelessness; since that is common to all objects which perception offers to thought. Room is left within the unchanging infinite for the infinite variety and contingency of natural processes, and among these for the changes wrought by human choice and action, and their unforeseeable issues. Just as it is with the material world in this respect, so it is with the invisible world beyond it; *this is not a kingdom of necessity, that a kingdom of change*; but both are parts of the unchanging infinite, both are subject to variety and contingency in their processes of evolution and development. And it is possible that the development and perfecting of human organisms may depend on modes of brain activity, of which a conscious converse with the existence pictured by our ideal world is the only evidence, and for the purpose of effectuating which it is the only guide.

SHADWORTH H. HODGSON.

V.—JOHN STUART MILL (III.).

My acquaintance with Mill dates from 1839, when I was a student at Marischal College, Aberdeen. In the winter of 1838-9, John Robertson, who was then assisting in the Review, paid a short visit to his native city. I had known him when I was a child, but had not seen him for years. He asked me to meet him, and entered into free conversation about his doings in London and about my pursuits and prospects. He gave me both advice and encouragement, and spoke a good deal about Mill whom I had never heard of, although I may have known something of his father. On returning to London, Robertson mentioned my name to Mill. In the summer of 1839, I wrote a criticism of some points in Herschel's *Discourse on Natural Philosophy*, a book that had long fascinated me, as it had done so many others. I thought Herschel occasionally weak in his metaphysics, and directed my criticism to some of those weaknesses. Robertson showed Mill this paper. He spoke favourably of the effort, but remarked to myself some time afterwards that the criticism was too severe, and that the book "always seemed to him to have the characters of a first crude attempt of a clever and instructed man in a province new to him".

In 1840, I took my M.A. Degree, and began to write for periodicals. Mill had just parted with the *London and Westminster*: but through Robertson, I got my first published article admitted into the *Westminster* for September; an exposition of the two scientific novelties—the Electrotype and Daguerreotype. In July, 1841, was published a second article entitled "The Properties of Matter," to which I owed the first notice taken of me by Mr. Grote. Both these articles did me good with Mill. In the same autumn, 1841, Robertson, who was now very much at sea himself, came down to Aberdeen, and made a long stay; during which I had abundant talk with him, my early friend David Masson being also of the party. Robertson occasionally wrote to Mill, and at last incited me to write to him. I scarcely remember anything of the terms of the letter, but I have preserved his reply, dated 21st Sept., 1841. After my first meeting with Robertson, nearly three years previous, I assiduously perused the back numbers of the *London and Westminster Reviews*, as well as each new number as it appeared, whereby I became thoroughly familiarised with Mill's ideas: and was thus able to exchange ideas with him on his own subjects. I was engaged for the succeeding winter to teach the class of Moral Philosophy in Marischal College, as substitute for the

professor ; and his letter is chiefly a comment upon this fact. Notwithstanding that he was then intently occupied in finishing his *Logic* for the press, he wrote me several other letters in the course of the winter. In the one immediately following (Oct. 15) he made mention of Comte, in these terms—"Have you ever looked into Comte's *Cours de Philosophie Positive?* He makes some mistakes, but on the whole I think it very nearly the grandest work of this age." From the remaining letters, I can gather that I had written him a good deal upon Whewell's writings, as well as on Herschel, and on his own coming book. Among other things, he sketched out for me a course of reading on Political and Historical Philosophy. He also criticised in detail the strong and weak points of an article published by me in the *Westminster* in Jan. 1842, with the somewhat misleading title—"Toys".

As soon as the Aberdeen winter session was over, in the middle of April, 1842, I went to London, and remained there five months. The day after arriving, I walked down to the India House with Robertson, and realised my dream of meeting Mill in person. I am not likely to forget the impression he made upon me, as he stood by his desk, with his face turned to the door as we entered. His tall slim figure, his youthful face and bald head, fair hair and ruddy complexion, and the twitching of his eyebrow when he spoke, first arrested the attention : then the vivacity of his manner, his thin voice approaching to sharpness, but with nothing shrill or painful about it, his comely features and sweet expression—would have all remained in my memory though I had never seen him again. To complete the picture, I should add his dress which was constant—a black dress-suit with silk necktie. Many years after that he changed his dress-coat for a surtout ; but black cloth was his choice to the end.

My opportunities of conversation with him for these five months consisted in going down to the India House twice a week at four o'clock, and walking with him a good part of his way to Kensington Square, where his mother and family lived. I also spent occasional evenings at the house, where I met other friends of his—G. H. Lewes being a frequent visitor. I may be said to have travelled over a good part of his mind that summer: although he did not then give me his full confidence in many things that I came to know afterwards, I had a very full acquaintance with his views on Philosophy and Politics, as well as a complete appreciation of his whole manner of thinking.

His *Logic* was finished and ready for press ; he had intended that it should be out in April of that year (1842). He had submitted it the previous winter to Mr. John Murray ; who kept it for some time, and then declined it, so that it could not be

brought out that season. He then submitted it to J. W. Parker, by whom it was eagerly accepted.¹ I do not remember the date of Parker's acceptance, but the book had not begun to go to press in the summer months ; the printing actually took place in the following winter. One of the first results of our conversations was, that he gave me the manuscript to peruse. During my stay I read and discussed with him the whole of it.

The impression made upon me by the work was, as may be supposed, very profound. I knew pretty well the works that could be ranked as its precursors in Inductive Logic, but the difference between it and them was obviously vast. The general impression at first overpowered my critical faculties ; and it was some time before I could begin to pick holes. I remember, among the first of my criticisms, remarking on the Chapter on "Things denoted by Names," as not being very intelligible ; I had at the same time a difficulty in seeing its place in the scheme, although I did not press this objection. The effect was that he revised the chapter, and introduced the subordinate headings, which very much lightened the burden of its natural abstruseness.

The main defect of the work, however, was in the Experimental Examples. I soon saw, and he felt as much as I did, that these were too few and not unfrequently incorrect. It was on this point that I was able to render the greatest service. Circumstances had made me tolerably familiar with the Experimental Physics, Chemistry and Physiology of that day, and I set to work to gather examples from all available sources. Liebig's books on the application of Chemistry had then just appeared, and contained many new and striking facts and reasonings, which we endeavoured to turn to account : although at the present day some of those inductions of his have lost their repute. An Aberdeen Lecturer on Chemistry, the late Dr. John Shier (Chemist to the Colony of Demerara) went carefully over with me all the chemical examples, and struck out various erroneous statements. I had recently made a study of Faraday's very stiff papers on Electricity, and from these I extracted one generalisation, somewhat modified by myself, and this Mill prized very highly ; nevertheless, it was afterwards carped at by Whewell, as going beyond what Faraday would have allowed. One way or other, I gave him a large stock of examples to choose from, as he revised the Third Book for press. The

¹ So great a work can sustain even a little anecdote. Parker, in intimating his willingness to publish the book, sent the opinion of his referee, in the writer's own hand, withholding the name. "He forgot," said Mill, "that I had been an Editor, and knew the handwriting of nearly every literary man of the day." The referee was Dr. W. Cooke Taylor, who afterwards was one of the reviewers of the book.

difficulty that was most felt was to get good examples of the *purely Experimental Methods*. He had availed himself of the famous research on Dew adduced by Herschel. There was hardly to be got any other example so good. For one of his later editions, I gave him the example from Brown-Séquard, on the cause of Cadaveric Rigidity, and also used it in my own book. For the Deductive Method, and the allied subjects of Explanation and Empirical and Derivative Laws, the examples that we found were abundant. When, however, I suggested his adopting some from Psychology, he steadily, and I believe wisely, resisted ; and, if he took any of these, it was in the Deductive department.

I was so much struck with the view of Induction that regarded it as reasoning from particulars to particulars, that I suggested a farther exemplification of it in detail, and he inserted two pages of instances that I gave him. On the three last books, I had little to offer. I remember his saying at a later period, that the Fourth Book (which I have always regarded as the crude materials of a Logic of Definition and Classification) was made up of a number of subjects that he did not know where to place.

The *Logic* has been about the best attacked book of the time ; and the author has in successive editions replied to objections and made extensive amendments. I have had myself full opportunities for expressing both agreements and dissents in regard to all the main points. Yet I could not pretend to say that criticism has been exhausted, or that imperfections and even inconsistencies may not even yet be pointed out. It is long since I was struck with the seeming incompatibility between the definition of Logic in the Introduction—the Science of Proof or Evidence—and the double designation in the title—Principles of Evidence and the Methods of Scientific Investigation. Previous writers laid little stress on Proof, and Mill took the other extreme and made Proof everything. Bacon, Herschel and Whewell seemed to think that if we could only make discoveries, the proof would be readily forthcoming, a very natural supposition with men educated mainly in mathematics and physics. Mill, from his familiarity with the Moral and Political Sciences, saw that Proof was more important than Discovery. But the title, although larger than the definition, is not larger than the work ; he did discuss the methods of Investigation, as aids to Discovery, as well as means of Proof ; only, he never explained the mutual bearings of the two. Any one that tries will find this not an easy matter.

The Sixth Book was the outcome of his long study of Politics, both Practical and Theoretical, to which the finishing stroke was

given by the help of Auguste Comte. I will return to this presently.

In five months he carried the work through the press, and brought it out in March, 1843. We may form some estimate of the united labour of correcting proof sheets, often one a day, of re-considering the new examples that had been suggested, of reading Liebig's two books, and Comte's sixth volume (nearly a thousand pages), and of re-casting the concluding chapters. From the moment of publication, the omens were auspicious. Parker's trade-sale was beyond his anticipations, and the book was asked for by unexpected persons, and appeared in shop-windows where he never thought to see it. Whately spoke handsomely of it; and desired his bookseller to get an additional copy for him, and expose it in the window.

While the work was printing, I prepared from the sheets a review of it, which came out in the *Westminster* in the April number, and was even more laudatory than Mill liked. The first adverse criticism of importance was an article in the autumn number of the *British Critic*, of nearly a hundred pages, known to have been written by Mr. W. G. Ward, the ally of Newman and Pusey. It was a most remarkable production, and gave Mill very great satisfaction, all things considered. It was not so much a review of the *Logic*, as of Mill altogether. Mr. Ward had followed him through his various articles in the *London and Westminster*, and had mastered his modes of thinking on all the great questions; and the present article takes these up along with the *Logic*. He expresses a warm interest in Mill himself: remarking—"An inquirer, who bears every mark of a single-minded and earnest pursuit of truth, cheers and relieves the spirits"; a pretty strong innuendo as to the prevailing dispositions of so-called inquirers. He deplores Mill's "miserable moral and religious deficiencies," and says if his "principles be adopted as a full statement of the truth, the whole fabric of Christian Theology must totter and fall". Accordingly the article is devoted to counterworking these erroneous tendencies; and the parts chosen for attack are the Experience-foundations of the Mathematical Axioms, the derived view of Conscience, and Necessity as against Free-Will. Mr. Ward has continued to uphold his peculiar tenets against the Experience-school. He had, afterwards, as he informs me, a good deal of correspondence with Mill, and once met him. At his instigation, Mill expunged from his second edition an objectionable anecdote.¹

Without pursuing farther at present the fortunes of the *Logic*, I will allude to the connexion between Mill and Comte, and to

¹ In regard to the *British Critic*, he wrote, "I always hailed Puseyism,

the share that Comte had in shaping Mill's Political Philosophy. Wheatstone always claimed to be the means of introducing Comte in England. He brought over from Paris the two first volumes of the *Philosophie Positive*, after the publication of the second, which was in 1837. It would appear that the first volume, by itself, published in 1830, had fallen dead; notwithstanding that the two first chapters really contained in very clear language, although without expansion, the two great foundations that Comte built upon—the Three Stages and the Hierarchy of the Sciences. Wheatstone mentioned the work to his scientific friends in London, and among others to Brewster, who was then a contributor of scientific articles to the *Edinburgh Review*. Comte's volumes struck him at once as a good topic; and he wrote an article on them in the August number for 1838. Any-one knowing him would have predicted as the strain of his review—an indignant or else contemptuous exposure of the atheism, a fastening on the weak points in his own special subjects, as Optics, and a cold recognition of his systematic comprehensiveness. This, however, was to leave out of the account one element—his antipathy to Whewell; sufficiently marked in a review of the *History of the Inductive Sciences* in the previous year. He found with joy a number of observations on Hypothesis and other points, that he could turn against Whewell, and the effect was, I have no doubt, to soften the adverse criticisms, and to produce an article on the whole favourable to the book, and one that even Comte himself regarded with some complacency. Mill got wind of the two volumes in the end of 1837, after he had completed the draft of his Book on Induction. The *Autobiography* gives (pp. 210-14) the general effect produced upon him by the whole work, which he perused with avidity as the successive volumes appeared; but does not adequately express the influence in detail, nor the warmth of esteem and affection displayed in the five years of their correspondence from 1841 to 1846. In our many conversations during the summer of 1842, Mill occasionally mentioned Comte, but not in a way to give me any clear conception of what his merits consisted in. Among his associates at that time was William Smith, lately dead, and known as the author of *Thorndale* and various other works. He was a pupil of the Mills in Philosophy, and occupied himself in contributing to magazines. In the winter of that year, he wrote a review of Comte in *Blackwood* (March, 1843), giving very well selected extracts; and from these I

and predicted that Thought would sympathise with Thought—though I did not expect to find my own case so striking an example". I was told that he had written several letters in the *Morning Chronicle* in this strain of subtle remark.

derived my first impression of the peculiar force of the book. I remember particularly being struck with the observations on the metaphysical and critical stage, as a vein of remark quite original.

It was in the summer of that year, 1843, that I read the work for myself. I was in London as before, and had the same opportunities of conversing with Mill. We discussed the work chapter by chapter, up to the last volume, which I had not begun when I left town. We were very much at one both as to the merits and as to the defects of the work. The errors were mostly of a kind that could be remedied by ordinary men better informed on special points than Comte; while the systematic array was untouched. The improvement effected in the Classification of the Sciences was apparent at a glance; while the carrying out of the Hierarchy, involving the double dependence of each science upon the preceding, first as to Doctrine and next as to Method, raised the scheme above the usual barrenness of science-classifications. Mill had already seized with alacrity, and embodied in the *Logic*, Comte's great distinction between Social Statics and Social Dynamics; and I was even more strongly impressed than he respecting the value of that distinction, as an instrument of social analysis. Comte, according to his plan of pushing forward the ideas of each of the fundamental sciences into the succeeding, had taken up the distinction in Abstract Mechanics, and carried it first into Biology, where it made his contrast between Anatomy and Physiology—Structure and Function. The next step was to Sociology, and led to the distinction of Order and Progress. I confess that I never thought the three cases exactly parallel; still, however the distinction came, it was invaluable in Sociology; and Comte's separation of the two interests—Social Order and Social Progress—was a grand simplification of the subject, and a mighty advance upon the Historical and Political Philosophy of his predecessors and contemporaries. The Social Statics he discussed briefly, as compared with the magnitude of the topics, but indicated well enough what these topics were; the Social Dynamics enabled him to give free scope to his doctrine of the Three Stages, and carry this out in a grand survey of the historical development of mankind. Here, of course, he exposed a wide front to criticism; but, while numerous exceptions might be taken to his interpretations of history, it was truly wonderful to see how many facts seemed to fall in happily under his formulas. Mill, it will be seen from the *Logic* (Book VI., chap. x.) accepted the Three Stages as an essential part of Comte's Historical Method, which method he also adopts and expounds as the completion of the Logic of Sociology. In our very first conversations, I remember how much he regretted Comte's misappreciation of Protestantism;

and he strove in the early part of their correspondence to make him see this. He also endeavoured to put him right on the speciality of England in the political evolution.

It is curious to observe that his altered estimate of Comte never extended to the views appropriated from him on the method of Social Science. The modifications in the later editions consisted mainly in leaving out the high-pitched compliments to Comte in the first; none of the quotations are interfered with. I give a few examples of these omissions. Referring to the latest edition, the eighth, on p. 490, he writes, "The only thinker who, with a competent knowledge of scientific methods in general"; in the first edition—"The greatest living authority on scientific methods in general". On p. 506, l. 5 from bottom, before "To prove (in short)," the first edition has—"It is therefore well said of M. Comte". In p. 512, l. 13 from top, the words "but deem them," are followed in 1st ed. by "with the single exception of M. Comte". In p. 513, l. 9 from top, after "up to the present time," a long sentence of reference to Comte is left out. In p. 530, l. 14 from top, after "attempted to characterise," there is omitted the clause—"but which hitherto are to my knowledge exemplified nowhere but in the writings of M. Comte".

The distinction of Statics and Dynamics was carried by Mill into the plan of his *Political Economy*. It also entered into his *Representative Government*; and if he had written a complete work on Sociology, he would have made it the basis of his arrangement as Comte did.

Mill's correspondence with Comte began in 1841. I heard from himself a good deal of the substance of it as it went on. Comte's part being now published, we can judge of the character of the whole, and infer much of Mill's part in the work. In 1842 and 1843, the letters on both sides were overflowing with mutual regard. It was Comte's nature to be very frank, and he was circumstantial and minute in his accounts of himself and his ways. Mill was unusually open: and revealed, what he seldom told to anybody, all the fluctuations in his bodily and mental condition. In one of the early letters, he coined the word "pedantocracy," which Comte caught up, and threw about him right and left ever after. Already in 1842 troubles were brewing for him in Paris, partly in consequence of his peculiar tenets, and still more from his unsparing abuse of the notables of Paris, the foremost object of his hate being the all-powerful Arago. His personal situation, always detailed with the utmost fulness, makes a considerable fraction of the correspondence on his side. When in 1843, the "Polytechnic pedantocracy," that is to say, the Council of the Polytechnic School, for which he was

Examiner, first assumed a hostile attitude, and when his post was in danger, Mill came forward with an offer of pecuniary assistance, in case of the worst ; the generosity of this offer will be appreciated when I come to state what his own circumstances were at that moment. Comte, however, declined the proposal ; he would accept assistance from men of wealth among his followers ; indeed, he broadly announced that it was their duty to minister to his wants ; but he did not think that philosophers should have to devote their own small means to helping one another. Mill sent the *Logic* to him as soon as published ; he is overjoyed at the compliments to himself, and warmly appreciates Mill's moral courage in owning his admiration. They discuss sociological questions at large, at first with considerable cordiality and unanimity ; but the harmony is short-lived. In summer, 1843, begins the debate on Women, which occupied the remainder of that year ; the letters being very long on both sides. By November, Comte declares the prolongation of the discussion needless ; but protests strongly against Mill's calling women "slaves". Mill copied out the letters on both sides, and I remember reading them. Some years later, when I asked him to show them to a friend of mine, he consented, but said that, having re-read them himself, he was dissatisfied with the concessions he had made to Comte, and would never show them to anyone again. What I remember thinking at the time I read them was, that Mill needlessly prolonged the debate, hoping against hope to produce an impression upon Comte. The correspondence was not arrested by this divergence, nor was Mill's sympathy for Comte's misfortunes in any way abated, but the chance of their ever pulling together on social questions was reduced to a very small amount. They still agreed as to the separation of the Spiritual and the Temporal power, but only as a vague generality. In July, 1844, came the crash at the Polytechnic ; by a dexterous manœuvre, Comte was ousted without being formally dismissed ; he lost 6000 francs a-year, and was in dire distress. He appealed to Mill, but with the same reservation as before ; Mill exerted himself with Grote and Molesworth, who with Raikes Currie agreed to make up the deficiency for the year. Another election came round, and he was not reinstated ; and was again dependent on the assistance of his English friends. They made up a portion of his second year's deficiency, but declined to continue the grant. He is vexed and chagrined beyond measure, and administers to Mill a long lecture upon the relations of rich men to philosophers ; but his complaint is most dignified in its tone. This puts Mill into a very trying position ; he has to justify the conduct of Grote and Molesworth, who might with so little

inconvenience to themselves have tided him over another year. The delicate part of the situation was that Grote, who began admiring Comte, as Mill did, although never to the same degree, was yet strongly adverse to his sociological theories, especially as regarded their tendency to introduce a new despotism over the individual. Indeed, his admiration of Comte scarcely extended at all to the sociological volumes. He saw in them frequent mistakes and perversions of historical facts, and did not put the same stress as Mill did upon the Social analysis—the distinction of Statics and Dynamics, and Historical Method; in fact, he had considerable misgivings throughout as to all the grand theories of the French school in the Philosophy of History. But the repression of liberty by a new machinery touched his acutest susceptibility; he often recurred in conversation to this part of Comte's system, and would not take any comfort from the suggestion I often made to him that there was little danger of any such system ever being in force. It was the explanation of this divergence that Mill had to convey to Comte; who, on the other hand, attempted in vain to reargue the point by calling to mind how much he and Mill were agreed upon, which, however, did not meet Grote's case. He returned to the theme in successive letters, and urged upon Mill that there was an exaggeration of secondary differences, and so on. What may be said in his favour is that Grote turned round upon him rather too soon. This was in 1846. The same year his Clotilde died. He still unfolded his griefs to Mill, and, as may be supposed, received a tender and sympathising response. The correspondence here ends.¹

I must still come back to the year 1842. In the October number of the *Westminster Review* for that year, was published his article on Bailey's Theory of Vision, in which he upheld the Berkeleyan doctrine against Bailey's attacks. I remember his saying that he went to the country, on one occasion, from Friday till Tuesday, and in the three days wrote this article. With all his respect for Bailey, he used a number of expressions very derogatory to his understanding; attributing to him such things as a "triumphing over a shadow," "misconceiving the

¹ Although Mill was the first and principal medium of making Comte and his doctrines familiar to the public, he was soon followed by George Henry Lewes who was beginning his literary career, as a writer in Reviews, about the year 1841. I met Lewes frequently when I was first in London in 1842. He sat at the feet of Mill, read the *Logic* with avidity, and took up Comte with equal avidity. These two works, I believe, gave him his start in philosophy; for although he had studied in Germany for some time, I am not aware that he was much impressed by German Philosophy. In an article, in the *British and Foreign Review*, in 1843, on the Modern Philosophy of France, he led up to Comte, and gave some account of him.

argument he is replying to," and so forth. Bailey was much hurt at the time by these expressions; and Mill's reply on this point is very characteristic (*Dissertations*, II. 119):—"To dispute the soundness of a man's doctrines and the conclusiveness of his arguments, may always be interpreted as an assumption of superiority over him; true courtesy, however, between thinkers, is not shown by refraining from this sort of assumption, but by tolerating it in one another; and we claim from Mr. Bailey this tolerance, as we, on our part, sincerely and cheerfully concede to him the like." This was his principle of composition throughout his polemical career, and he never departed from it. Of Bailey's reply on this occasion, he remarked—"The tone of it is peevish. But Bailey is, I know, of that temper,—or rather I infer it from sundry indications."

The same year was memorable for the American Repudiation, in which Mill was heavily involved. He had invested, I am told, a thousand pounds of his own money, and several thousands of his father's money which he had in trust for the family, and which he would have to make good. The blow completely shook him for the time. From whatever cause, or union of causes, his bodily strength was prostrated to such a degree that, before I left London that autumn, he was unequal to his usual walk from the India House home, and took the omnibus before he went far. The disaster must have preyed upon him for a year or more. He alludes to his state in the Comte letters, in which he described his depression as both physical and moral. It appears that in a letter to Comte of the 15th Nov., he gave assurances of his being much better. So in writing to me on the 3rd Oct., he says, "I am quite well and strong and now walk the whole way to and from Kensington without the self-indulgence of *omnibi*". But on the 5th Dec. he says, "I have not been very well but am a little better". He was now in the middle of the very heavy winter's work of getting the *Logic* through the press. There is no more heard of his health till the following June, in which he wrote to Comte in a very depressed tone. I remember, either in that or in the previous summer, his confessing to me that he was in a low state. I naturally urged that he had a long continuance of very heavy work. He replied hastily, "I do not believe any man was ever the worse of work," or something to that effect. I listened in mute astonishment; being quite ignorant that other circumstances besides his intellectual strain were at work. In writing to Comte who, unlike him, believed in the bad consequences of prolonged study, he said his doctors advised him to rest his brain, but, as they knew so very little, he preferred to abide by his own feelings, which taught him that work was the only thing to counteract

melancholy. Comte, however, urged that a "true positive therapeutics" involved rest and diversion; and Mill believed in regular holiday tours. It was during this dreadful depression of June and July, 1843, and after the American Repudiation had beggared him, that he made his offer of pecuniary assistance to Comte. He had had no holiday for two years, and, except for his customary Sunday walks, he did not leave town that autumn: I suspect that his money affairs had something to do with his still postponing his holiday. In October, his letters announce an improved state of health.

His work in 1843, after the publication of the *Logic*, was his "Michelet" article, written in autumn. In September, he writes, "I am now vigorously at work reviewing Michelet's *History of France* for the *Edinburgh*. I hope to do Napier, and get him to insert it before he finds out what a fatal thing he is doing." On 3rd Nov., he says, "My review of Michelet is in Napier's hands. If he prints it, he will make some of his readers stare." The article appeared in January, and had none of the serious consequences predicted. We have a difficulty, reading it now, to see anything very dreadful in its views. But a philosophic vindication of the Papacy and the celibacy of the clergy, as essential preservatives against barbarism, was not then familiar to the English mind. Mill had worked himself into sympathy with everything French, and echoed the importance of France from the French historians. He always dealt gently with her faults, and liberally with her virtues.

While writing this article, he was projecting in his mind his next book, which was to be on the new science, first sketched in the *Logic*, to be called 'Ethology'. With parental fondness, he cherished this subject for a considerable time; regarding it as the foundation and cornerstone of Sociology. "There is no chance, he says, for Social Statics at least, until the laws of human character are better treated." A few months later he wrote—"I do not know when I shall be ripe for beginning 'Ethology'. The scheme has not assumed any definite shape with me yet." In fact, it never came to anything; and he seems shortly to have dropped thinking of it. I do not believe there was anything to be got in the direction that he was looking. He was all his life possessed of the idea that differences of character, individual and national, were due to accidents and circumstances that might possibly be, in part, controlled; on this doctrine rested his chief hope in the future. He would not allow that human beings at birth are so very different as they afterwards turn out.

His failure with 'Ethology' fatally interfered with the larger project, which I have no doubt he entertained, of executing a

work on Sociology as a whole. The opinion was long afloat in London that he had such a work in view; but I do not think he ever said so; it was not his way to give out what he was engaged upon, at least before making himself sure of going through with it. That he despaired, for the present at least, of making anything out of Ethology at the time I refer to, is proved by his betaking himself soon after to the composition of his *Political Economy*.

I have now disposed of all my memoranda relating to 1842 and 1843. The beginning of 1844 saw the publication of the article on Michelet, to which I have adverted. In a letter dated 8th Jan., I find this upon Beneke:—"I am reading a German professor's book on Logic—Beneke is his name—which he has sent to me after reading mine, and which had previously been recommended to me by Austin and by Herschel as in accordance with the spirit of my doctrines. It is so in some degree, though far more psychological than entered into my plans. Though I think much of his psychology unsound for want of his having properly grasped the principle of association (he comes very close to it now and then), there is much of it of a suggestive kind."

From the Comte letters it appears that he had another relapse of his indisposition at this time. Comte earnestly urges him to try a change of climate—Naples or Lisbon—to fortify him for the next few years against "le séjour spleenique de Londres". "What is the opinion, I do not say of your doctors, whom you have little faith in, but of those of your friends who are biologists?"

I passed three months in London in the summer of 1844, and saw him frequently as before. I have no special recollections of his work this summer. In the autumn he took his long-deferred holiday, and was absent from London two months. He came back quite recruited, and in the course of the winter wrote his admirable article on "The Claims of Labour," which appeared in the *Edinburgh* in the following spring.

I had several letters from him in the winter of 1844-5, but they say little about himself. He remarks of the review of his *Logic* in the *Eclectic Review*, that the reviewer differs from him on the Syllogism which he understands, and agrees with him on the rest of the book without seeming to understand it. He announces with satisfaction, as a most important conquest for Comte, the appearance of Littré's papers in the *National* newspaper. This, however, was immediately followed by his renewed and final exclusion from the Polytechnic Examinership; for which one resource was suggested—to start a Positive Review, a scheme that bulks largely in the correspondence for some months, and

receives from Mill a qualified support. In March, 1845, he writes to me, "Have you seen Ward's book, *The Ideal &c.*? It is a remarkable book in every way, and not the least so because it quotes and puffs me in every chapter, and Comte occasionally, though with deep lamentations over our irreligion." The Comte correspondence shows that he had written to Comte informing him of Mr. Ward's allusions. Comte is very much flattered, and thinks the compliments deserved, because of the justice he had rendered to Catholicism (p. 323).

The summer of 1845 was marked by an interesting incident. In June, the British Association met at Cambridge, Sir John Herschel in the chair. I was at the meeting, and listened to Herschel's address. One notable feature in it was the allusion to the recent works on the Logic of Science, by Whewell and Mill especially, on both of whom Sir John bestowed high encomiums. He also mentioned Comte, but in a very different strain. There was, I remember, a good deal of buzz among Mill's friends that were present, at this unexpected mention of him. Mill was of course extremely gratified on his own account, but considered that Comte was very unfairly handled. Herschel brought up the nebular hypothesis, as advocated by Comte, but treated Comte's mathematics with contempt, and spoke of his book as "a philosophical work of much mathematical pretension, which has lately come into a good deal of notice in this country". To dismiss Comte in this summary fashion, even supposing he had laid himself open by his supposed mathematical proofs of the hypothesis, was a little too strong. Mill naturally thought it an evidence of some weakness in Herschel's mind that he should be so blind to the abundant manifestations of intellectual force in the *Philosophie Positive*.¹ He wrote to Herschel, thanking him for the mention of himself, and remonstrating on his treatment of Comte; but went a little out of his depth in attempting to uphold Comte's calculation. Herschel, in replying, reiterated his approval of the *Logic*, stating that it was his intention to have reviewed it in the *Quarterly*, as he had done Whewell; but as regarded Comte, he was obdurate, and demolished at a stroke the proof that Mill had relied upon. I think Mill wrote a rejoinder. It is to be hoped that these letters are preserved. Mill copied them and sent them to Comte. It was

¹ The following sentence in Mill's review of "Comte and Positivism" does not apply to the scientific magnates of England, at the date of Herschel's Address:—"He (Comte) has displayed a quantity and quality of mental power, and achieved an amount of success, which have not only won but retained the high admiration of thinkers as radically and strenuously opposed as it is possible to be, to nearly the whole of his later tendencies, and to many of his earlier opinions".

not the first time that Herschel's name had come up between them ; he must have previously written to Mill in acknowledgement of the *Logic*. In Comte's letter of date 21st October, 1844, (p. 276) he refers to the information given him by Mill, that Herschel meant to read "mon grand ouvrage," but does not count upon its making a favourable impression, "du moins intense". He then gives the reasons : one being H.'s prepossessions in favour of sidereal astronomy ; the other his analogy to Arago, although "without the charlatanism and immorality of that disastrous personage". Such was the previous reference. The result of his seeing the present correspondence appears on p. 362. Comte is very much touched with the zeal displayed by Mill on his behalf ; but declines Mill's suggestion that he should himself take up the cudgels in his own defence. Mill, he says, had sufficiently proved, although in a polite way, the malevolent spirit and even the bad faith of Herschel. He is, however, quite satisfied with his former explanation of Herschel's motives, namely, the soreness caused by his discarding sidereal astronomy, on which Herschel's father and himself rested their chief fame.

In the summer of 1845, I became personally acquainted with Grote. For several years previously, Mill appears to have seen little of him, but they had now resumed their footing of intimacy. Grote was living chiefly in the country, but when he came into town, he made a point of arranging walks and talks with Mill. From the time of my introduction to Grote, I was usually asked to join them. I remember well our first meeting at the London Library, and subsequent walk in Hyde Park. Their conversation took an exceptional turn ; how it came I cannot exactly remember, but they went over all the leaders of the Reformation, discussing their several characteristics. The subject was not one that either was specially informed upon. As Grote was then on the eve of bringing out the first two volumes of his *History*, this was a natural topic ; much more so, after the volumes were out. But Grote was never satisfied if we parted without coming across some question in metaphysics or philosophy. Although his time was mainly given to the *History*, he always refreshed his mind at intervals with some philosophic reading or meditation, and had generally a nut to crack when we came together. Plato and Aristotle were never long out of his hands ; he was also an assiduous reader of all works on science, especially if they involved the method of science ; but the book that was now oftenest in his hands in the intervals of work, was Mill's *Logic*. I doubt if any living man conned and thumbed the book as he did. "John Mill's *Logic*," I remember his saying, "is the best book in my library" ; he had not the same high opinion of any of Mill's other books. He was himself

one of nature's logicians; he was a thorough-going upholder of the Experience-philosophy, and Mill's *Logic* completely satisfied him on this head. Often and often did he recur to the arguments in favour of *a priori* truth, and he was usually full of fresh and ingenious turns of reply. It was only in Mill that he could find a talker to his mind in this region, as in philosophy generally. Equally intense was his devotion to Utility as the basis of Morals, and still more varied was his elucidation and defence of the principle; on that topic also he had few that he could declare his whole mind to, and this was another bond of attraction to Mill. Towards himself, on the other side, Mill had an almost filial affection, and generally gave him the earliest intimation of his own plans; but much as he loved Grote's company, his movements were under the control of a still greater power. Notwithstanding their wide agreement and numerous bonds of sympathy from this cause as well as from long intimacy, Grote had always a certain misgiving as to his persistence in the true faith. He would say to me, "Much as I admire John Mill, my admiration is always mixed with fear," meaning that he never knew what unexpected turn Mill might take. This I regarded as an exaggeration due to Grote's gloomy temperament, as well as to the shock of the "Bentham" and "Coleridge" articles; and to Mill's consequent making himself at home with Maurice, Sterling, and Carlyle, with whom Grote never could have the smallest sympathy.

The first opinion held by both that I found occasion to controvert, in those early conversations, was the Helvetius doctrine of the natural equality of human beings in regard of capacity. I believe I induced Grote at last to relax very considerably on the point; but Mill never accommodated his views, as I thought, to the facts. With all his wide knowledge of the human constitution and of human beings, this region of observation must have been to him an utter blank.

This summer (1845) produced the article on Guizot, the last of his series on the French Historians (apart from Comte). It seems to have been a great success, even in the point of view of the old *Edinburgh Review* connexion, to which it was often an effort to accommodate himself. Jeffrey (*Napier Correspondence*, p. 492) is unusually elated with it; "a very remarkable paper," "passages worthy of Macaulay," "the traces of a vigorous and discursive intellect". He did not then know the author: when made aware of the fact, he adds, "Though I have long thought highly of his powers as a reasoner, I scarcely gave him credit for such large and sound views of realities and practical results". The reader will remember that the most prominent topic is the Feudal System.

We are now at the commencement of the *Political Economy*, which dates from the autumn of this year. The failure of the 'Ethology' as a portal to a complete Sociology left the way clear for this other project, at a time when he had still energy for great things. Indoctrinated as he was from babyhood in the subject, and having written articles on it and discussed it, both in private and in the Political Economy Club, with all the experts of the time, it seemed to offer a fine field for his expository powers. Add to which, he found he could attach to it his views as to the great social questions; although, it must be allowed, the bond of connexion was somewhat loose, and the larger Sociology would have been a more fitting occasion for such wide-reaching topics.

In a letter dated Feb., 1846, he announces that the third part of the *Political Economy* is written. He says, in the *Autobiography*, that it was the most rapidly written of any of his books; which showed that the subject had been well matured. He turned aside to write an article for the *Edinburgh* on French politics, the text being a series of political papers by Charles Duveyrier. Louis Philippe was now at the height of his prosperity; but the political system was very unsatisfactory: and Mill returned for a little to his old interest in France, and discussed in his usual style the workings of the constitutional system, its weakness and its remedies. His author—a calm, clear-sighted reasoner—put much stress upon a second chamber made up of old officials, and Mill sympathises with his object in desiring a counterpoise to democracy; but remarks, with his usual acuteness, "It is not the uncontrolled ascendancy of popular power, but of any power, which is formidable". The article came out in April, 1846. It appears that the Editor thought fit to omit a passage controverting the prevailing notion of the warlike propensity of the French. Mill wished the passage had been retained: "The opinion is a very old and firm one with me, founded on a good deal of personal observation". He adds, "the *Edinburgh* has lately been sometimes very unjust to the French". He further interrupted the *Political Economy* to write his review of Grote's first two volumes, which appeared in the *Edinburgh* in October. This was, in every sense, a labour of love; love of the subject, love of the author, and admiration of the work. Writing in September, he says, "I have just corrected the proof of my review of Grote, in which I have introduced no little of the Comtean philosophy of religion. Altogether I like the thing, though I wrote it in exactly four days, and re-wrote it in three more, but I had to read and think a good deal for it first." His reading, I remember, included the whole of the *Iliad* and *Odyssey*, for the sake of the Homeric

discussion, in which he perilously ventured to differ somewhat from Grote. There was no man whose opinion Grote was more sensitive to, but the objections raised did not alter his views. In deference to Mill, he made some slight changes in the next edition. One, I remember, was to leave out of the preface the words "feminine" and "masculine," as a figurative expression of the contrast of the artistic and scientific sides of the Greek mind. Mill could never endure the differences of character between men and women to be treated as a matter of course.

In the letter above quoted, he announces that he has "got on well with the *Pol. Ec.*" I am on the point of finishing the third book (*Exchange*). He was now beginning his hardest winter after 1842-3. It was the winter of the Irish famine, and he thought he saw an opportunity for a grand regenerating operation in Ireland. He began in the *Morning Chronicle* a series of leading articles, urging the reclamation of the waste lands to be converted into peasant properties, and iterated all the facts showing the potency of the proprietary feeling in strengthening the dispositions to industry. In the months of October, November, December, and January, he wrote two or three leaders a-week on this topic; we used to call these, in the language of the medical schools, his "*Clinical Lectures*". He was pushing on the *Political Economy* at the same time. Moreover, a letter to his brother James (2nd Nov.), shows that he was labouring under illness: "had been ill, now better, but still a bad cold". In the middle of November, he wrote that the articles "have excited a good deal of notice, and have quite snatched the initiative out of the *Times*". He adds—"It is a capital thing to have the power of writing leaders in the *Chronicle* whenever I like, which I can always do. The paper has tried for years to get me to write to it, but it has not suited me to do it before, except once in six months or so." On the 28th December, he says—"I continue to carry on the *Pol. Econ.* as well as I can with the articles in the *Chronicle*. These last I may a little slacken now, having in a great measure, as far as may be judged by appearances, carried my point, *viz.*, to have the waste lands reclaimed and parcelled out in small properties among the best part of the peasantry." In another month he changes his tune. On 27th Jan. (1847), he writes:—"You will have seen by this time how far the ministry are from having adopted any of my conclusions about Ireland, though Lord J. Russell subscribes openly to almost all the premises. I have little hope left. The tendency of their measures seems to me such that it can only bring about good to Ireland by excess of evil." "I have so indoctrinated the *Chronicle* writers with my ideas on Ireland that they are now going on very well and

spiritedly without me, which enables me to work much at the *Political Economy*, to my own satisfaction. The last thing I did for the *Chronicle* was a thorough refutation, in three long articles, of Croker's article on the Division of Property in France." Two months later, he announced that the first draft of the *Political Economy* was finished. As to public affairs—"The people are all mad, and nothing will bring them to their senses but the terrible consequences they are certain to bring on themselves, as shown in Whately's speech yesterday in the House of Lords—the only sensible speech yet made in either House on the question. Fontenelle said that mankind must pass through all forms of error before arriving at truth. The form of error we are now possessed by is that of making *all* take care of *each*, instead of stimulating and helping each to take care of himself; and now this is going to be put to a terrible trial, which will bring it to a crisis and a termination sooner than could otherwise have been hoped for."

Before passing from this memorable winter, I may mention that Liebig, in a reprint of his *Animal Chemistry*, handsomely repaid the notice taken of his researches in the *Logic*: saying of his amended views that "he feels that he can claim no other merit than that of having applied to some special cases, and carried out further than had previously been done, those principles of research in natural science which have been laid down" in Mill's book. Mill exultingly remarked—"The tree may be known by its fruits. Schelling and Hegel have done nothing of the kind."

Before arriving in London this year, I had another letter (5th May). He delays to commence rewriting till he sees the upshot of the Irish business. "The conduct of the ministers is wretched beyond measure upon all subjects; nothing but the meanest truckling at a time when a man with a decided opinion could carry almost anything triumphantly." I saw him as usual during the summer, but do not remember any incidents of importance. Grote was in town for several weeks on the publication of his third and fourth volumes, which was a new excitement. I went down to Scotland in autumn, but having no longer any teaching-appointment there I returned to London in November, and entered the Government service, and was therefore in constant residence until I saw fit to resign in 1850. For this interval, I have not the advantage of possessing any letters from Mill, and can only give a few scattered recollections of the more impressive occurrences.

The *Political Economy* was published in the beginning of 1848. I am not about to criticise the work, as I mean to do the subsequent writings, but I have a few remarks to make

upon it. One modification in the laying out of the subject he owes, as I have already said, to Comte's sociological distinction into Statics and Dynamics. This is shown in the commencement of the Fifth Book, entitled, "The Influence of the Progress of Society in Production and Distribution". I can believe, although I am not a political economist, that this distinction may have been as useful in Political Economy as in Politics. He spoke of it to me at the time as a great improvement.

But what I remember most vividly of his talk pending the publication of the work, was his expectation of a tremendous outcry about his doctrines on Property. He frequently spoke of his proposals as to Inheritance and Bequest, which, if carried out, would pull down all large fortunes in two generations. To his surprise, however, this part of the book made no sensation at all. I cannot now undertake to assign the reason. Probably people thought it the dream of a future too distant to affect the living; or else that the views were too wild and revolutionary to be entertained. One thing strikes me in the chapter on Property. In § 3, he appears to intimate that the children even of the wealthy should be thrown upon their own exertions for the difference between a bare individual maintenance and what would be requisite to support a family; while in the next section, he contemplates "a great multiplication of families in *easy circumstances*, with the advantage of *leisure*, and all the real enjoyments which wealth can give, except those of vanity". The first case would be met by from two to five hundred a year; the second supposes from one to two thousand. The whole speculation seems to me inadequately worked out. The question of the existence of large fortunes is necessarily a very complex one; and I should like that he had examined it fully, which I do not think he ever did.

His views of the elevation of the Working Classes on Malthusian principles have been much more widely canvassed. But there is still a veil of ambiguity over his meaning. Malthus himself, and some of his followers, such as Thomas Chalmers, regarded late marriages as the proper means of restricting numbers; an extension to the lower classes of the same prudence that maintains the position of the upper and middle classes. Mill prescribes a further pitch of self-denial, the continence of married couples. At least, such is the more obvious interpretation to be put upon his language. It was the opinion of many, that while his estimate of pure sentimental affection was more than enough, his estimate of the sexual passion fell a good deal below the truth.

The strong leanings towards some form of Socialism, indicated in the *Autobiography*, would have led us to believe that his

opinions nearly coincided with those of the Socialists commonly so called. The recent publication of his first draft of a projected essay on the subject shows the wide gulf that still separated him, and them. The obstacles to the realising of socialistic schemes could not be more forcibly expressed. Above all, the great stress that he always put upon Individuality would be almost impossible to reconcile with the constructions of Fourier, Owen, Louis Blanc, and the American communities. His socialism is thus to be the outcome of a remote future, when human beings shall have made a great stride in moral education or, as Mr. Spencer would express it, have evolved a new and advanced phase of altruism.

The publication of the *Political Economy* was followed by another very serious breakdown in his health. In the summer of 1848, an affection of the thigh (I am not sure whether it began in a hurt) was treated by his doctor with iodine; the consequence of which was a speedy impairment of his eye-sight. I remember him in a state of despair from the double misery of lameness and blindness. His elasticity of constitution brought him through once more; but in the following year, 1849, he was still in an invalid condition. I introduced to him that year Dr. Thomas Clark, of Marischal College, himself a permanent invalid from overwork, who spoke a good deal to him about regimen, and endeavoured to induce him to try the water-treatment, then just started. He was, however, not to be moved from his accustomed routine. His view of the medical art (at the time I speak of) was, that it should restore a shattered frame by something like magic. In other respects, his intercourse with Clark gratified him much, and led to a permanent friendship.

His work, as a great originator, in my opinion, was now done. The two books now before the world were the great constructions that his accumulated stores had prepared him for; and I do not think that there lay in him the materials of a third at all approaching to these. It is very unlikely indeed that he was even physically capable of renewing the strain of the two winters—1842-3 and 1846-7. His subsequent years were marked by diminished labours on the whole; while the direction of these labours was towards application, exposition and polemic rather than origination; and he was more and more absorbed in the outlook for social improvements. Not that his later writings are deficient in stamina or in value; as sources of public instruction and practical guidance in the greatest interests of society, they will long hold their place. But it was not within the compass of his energies to repeat the impression made by

him in 1843 and again in 1848. We must remember that all through his severest struggles, he had a public official duty, and spent six hours every day in the air of Leadenhall street; and although he always affected to make light of this, or even to treat the office work as a refreshing change from study, yet when his constitution was once broken, it would tell upon him more than his peculiar theories of health and work would let him confess.

In another article, I propose to review the writings subsequent to the date now reached.

A. BAIN.

VI.—NOTES AND DISCUSSIONS.

NOMINALISM.

It has been very much the fashion, in recent times, to ridicule the achievements of the Schoolmen. Two or three old stories, such as Molière's jest about the dormitive power of opium, or the discussion concerning the number of angels that could dance upon the point of a needle, seem to constitute the chief information possessed by many modern writers about the activity of several very great minds. It is true that the subjects of the disputes of the Middle Ages have lost their interest for us. Few persons would now inquire whether or no a mouse that had eaten of the consecrated wafer was thereby a participant in the real body and blood of Christ; but a little reflection shows that concealed under this ridiculous mask there lie great and still open questions of philosophy. The methods formerly in vogue did not solve these problems; but they have not been solved by modern philosophers, or if they have, such solutions have not gained general acceptance. Yet the attitude of those that maintain the futility of the discussion, because discussion has hitherto been fruitless, can satisfy only themselves; and even they, as was the case with Mr. Lewes, are liable to backslide. Man is impelled, by an irresistible curiosity, to pry into certain themes; and this desire, like all others of our nature, indicates a true want.

The intolerant spirit of former days has so nearly expired that many of the questions that once bred persecution may now be approached with perfect safety. Believers and sceptics now dispute with mutual expressions of respect, instead of hatred, and display all the politeness of civilised warfare. There is to be observed an earnest desire on the part of the disputants to understand the position of their adversaries and to do it justice. The end of disputation is generally admitted to be the truth, and the consequences to particular dogmas are disregarded. Since the volcanic fires are thus subdued, we may venture to descend into the crater for scientific purposes, or even, like the peasants about Mount Vesuvius, to reclaim for our use the soil that has been fertilised by its fiery treatment.

Certainly much ground has been secured in Psychology since the time of Locke. The Association-school has very nearly perfected its system, and its opponents have yielded a great deal. But when certain limits are approached, there appears to be a great gulf fixed between the contending parties. The doctrine of the Nominalists, such as Hume and Mr. Bain, seems to me to leave unanswered one or two questions. These questions admit of brief answer, if they admit of answer at all. If it be found that no answer can be given to them, then the opponents of Nominalism win their case, or at any rate a *modus vivendi* may be established. If these questions are really unanswerable, then something will have been gained by both sides in the proper labelling of certain subjects. These subjects, it may be added, although not all comprehended under the title 'Nominalism,' are yet so closely allied that the settlement of one involves the settlement of all.

In order to clear the ground, it will be necessary to reopen a discussion that many persons suppose to have been closed by Mill. That philosopher remarks :—"Resemblance, when it exists in the highest degree of all, amounting to undistinguishableness, is often called identity, and the two similar things are said to be the same.

We constantly use this mode of expression when speaking of feelings ; as when I say that the sight of any object gives me the *same* sensation or emotion to-day that it did yesterday, or the *same* which it gives to some other person. This is evidently an incorrect application of the word *same* ; for the feeling which I had yesterday is gone, never to return ; what I have to-day is another feeling, exactly like the former, perhaps, but distinct from it ; and it is evident that two different persons cannot be experiencing the same feeling in the sense in which we say that they are both sitting at the same table." Mill also quotes Whately approvingly, a part of the passage being as follows :—"Sameness, in the primary sense, does not even necessarily imply similarity ; for if we say of any man, that he is greatly altered since such a time, we understand, and, indeed, imply by the very expression, that he is *one person*, though different in several qualities". (*Logic*, Bk. I. iv. 11 ; V. vii. 1.)

We have here Mill's opinion as to the incorrect use of the word *same*. He gives us no information as to the correct use, and for a very simple reason :—on his terms, it is impossible to use the word at all, except as a synonym for *one*. If resemblance amounts to undistinguishableness and is yet not identity, pray, what is identity ? Mill has neglected to point out the true criterion, although he praises the Aristotelian logicians for their distinction between sameness *numero* and sameness *specie*. In point of fact there is nothing the same *numero* (except substances), at least from the idealist's point of view. We may say everything is the same as itself, but we certainly could make little use of this liberty, since no two things can be the same, by the very meaning of the word two. The truth of the matter is simply this :—when an object or a conscious state is undistinguishable from another object or conscious state, *except in the element of time*, we call

the two the same. Complete undistinguishableness is an absurd expression, for it implies that there are two things (which involves distinction), and that we cannot distinguish them (which negatives distinction). It is also true that in common speech we apply the word *same* to objects that differ in place as well as in time; as when I move this sheet of paper, I recognise it as still the same. The word *like* is properly applied to objects or states that have elements of sameness in diversity,—that differ not only in place and time but also in other elements.

It is somewhat remarkable that Mill should cite the instance of a *person* as the type of identity. His only explanation of what he means by sameness, is when he speaks of two persons sitting at the same table. This plainly means that the two are at one table and not at two tables. If it is the same table, it must be the same table to different persons, or to the same person at different times. Hence it would follow that a ‘permanent possibility of sensation’ is the same to different minds; that is, the same sensations may exist in different persons, an expression just condemned by Mill; or the same sensations may recur in the same person, a view which he reprobates Bishop Berkeley for holding. It would be very easy to show from Mill’s own writings that he uses *same* in the sense that he condemns, but as he could not make much use of the word in any other sense, his inconsistency may be pardoned. It will at least justify the use, in this discussion, of *same* as meaning undistinguishable except in time or place. I am aware that some may suspect that the subjectivity of time and space will lead to a world of absolute ideas; but so long as the common doctrine of the indestructibility of matter prevails, we should not perhaps, be involved in any glaring inconsistency.

The first question that is important in Nominalism is this:—Does an individual object, when classed by the mind, call up another individual object having certain points of likeness or sameness, or does it call up simply the points of likeness? Does it call up other objects, or only revive certain attributes? When I see a circle and call it round, do I necessarily have a concrete idea or image of another object, agreeing in some respects with the circle, and differing in others; or do I call up merely certain qualities or elements that I recognise as the same as some of those that I at present experience? Or, in subjective language, when conscious state takes place, do I recall former states, or a former state, resembling more or less the present state; or do I recall only certain elements of former states that I know to be the same as certain present elements?

As to this question, I cite the following expressions from Mr. Bain and John Mill. Mr. Bain says:—“We are able to attend to the points of agreement of resembling things and to neglect the points of difference. . . . We can think of the roundness of spherical bodies, and discard the consideration of their colour and size.” This he calls abstraction. He goes on, however, to say:—“Every concrete thing falls into as many classes as it has attributes: to refer it to one of these classes and to think of the corresponding attribute, are one

mental operation. . . . To abstract the property of transparency from water is to recall at the instance of water, window glass, crystal, air, &c.

. . . Hence abstraction does not consist in the mental separation of one property of a thing from the other properties—as in thinking of the roundness of the moon apart from its luminosity and apparent dimension. Such a separation is impracticable; no one can think of a circle without colour or a definite size. . . . Neither can we have a mental conception of any property abstracted from all others." (*Mental Science*, Bk. III. c. 5.)

I fail to reconcile the above propositions—"We can think of the roundness of spherical bodies, and discard the consideration of their colour and size," and this is abstraction; but "abstraction does not properly consist in the mental separation of one property of a thing from the other properties—as in thinking of the roundness of the moon apart from its luminosity and apparent dimension". So far as I can see, Mr. Bain regards the process of thinking of anything and discarding other considerations, as a very different matter from thinking of anything apart from other considerations. I do not know that the word *apart* is very significant, and perhaps every one would be contented with the admitted power to discard the consideration of other attributes than the one we think of. However, it is clear enough from the illustration of transparency that Mr. Bain's opinion is that we recall not attributes but objects.

Mill employed very nearly the same expressions—"We can only be conscious of the attributes which are said to compose the concept as forming a representation jointly with other attributes which do not enter into the concept." "The formation of a concept does not consist in separating the attributes which are said to compose it, from all other attributes of the same object, and enabling us to conceive those attributes disjoined from any others. We neither conceive them, nor think them, nor cognise them in any way as a thing apart, but solely as forming, in combination with numerous other attributes, the idea of an individual object. But though thinking them only as part of a larger agglomeration, we have the power of fixing our attention on them, to the neglect of the other attributes with which we think them combined. While the concentration of attention actually lasts, if it is sufficiently intense, we may be temporarily unconscious of any of the other attributes, and may really, for a brief interval, have nothing present to our mind but the attributes constituent of the concept." (*Exam. of Hamilton*, c. xvii.)

Here again I must confess my inability to reconcile the statement—"We can only be conscious of the attributes which are said to compose the concept as forming a representation jointly with other attributes which do not enter into the concept," with the statement—"We may be temporarily unconscious of any of the other attributes, and may really, for a brief interval, have nothing present to our mind but the attributes constituent of the concept". We cannot think concepts "as a thing apart," but we can neglect and be unconscious of any other attributes with which we think them combined. I

think most persons would suppose that when they were unconscious of all but certain attributes, they were thinking those attributes apart from others ; and if not as " a thing," it would perhaps be hard to define a thing. The only way to reconcile these statements, so far as I can discover, is to emphasise the expressions " forming a representation " and " a thing apart ". But would Mill admit that we could have nothing present to the mind but certain attributes, and yet that those attributes did not form a representation ? I think he must admit this if he is to reconcile the above statements. But if he take this ground he certainly would confuse his own followers, and would in addition lay himself open to the criticism that he has made of Hamilton. Hamilton says, " The concept cannot be represented in imagination, and if not, cannot be applied to any object, and if not, cannot be realised in thought at all ". But Mill ridicules the idea that we can *think* as opposed to image or picture in thought. He overlooks the distinction that Hamilton would make between thinking and realising in thought. By so doing he forbids us to explain in this way his own inconsistent statements, and if we have nothing present to our mind but the attributes constituent of the concept, they must be present as a representation ; unless he means to distinguish between presentation and representation. But the mere operation of closing the eyes, which would cause us to pass from one kind of knowledge to the other, would hardly hinder us from keeping our attention fixed upon those attributes which had monopolised it. In short, if we can, for a brief interval, have nothing present to the mind but certain attributes, why may we not have this state of mind over again, when an object comes up having those attributes ? If I have the power in one case, I do not see why I have it not in the other.

Mill goes on to say :—" General concepts, therefore, we have, properly speaking, none ; we have only complex ideas of objects in the concrete : but we are able to attend exclusively to certain parts of the concrete idea ; and by that exclusive attention, we enable those parts to determine exclusively the course of our thoughts as subsequently called up by association. . . . What principally enables us to do this is the employment of signs, and particularly the most efficient and familiar kind of signs, *viz.*, names."

If Nominalists allow that by attention we enable certain attributes to determine exclusively the course of our thoughts, it is probable that most Conceptualists would be willing to admit that signs and names are our chief assistants in this. But no sign has any power in itself. All that it does, it does by means of its connexion with a given state of mind, which state may be well enough described, in Mill's language, as the presence of nothing but the attributes constituent of the concept—certain parts that determine exclusively the course of our thoughts. In point of fact, if we use a sign at all, we are taking a part to stand for the whole ; and why not a part of the attributes to stand for the whole of them ? The fact that we often use a part only of the attributes forming a concept, shows only that we get along with something less than perfection in our reasoning ; if we always used

the whole concept there would be very little false reasoning. A name becomes virtually one of the attributes of an object, like the bell to the wether ; but the connexion is conventional. A name is not applied to an isolated experience. The difference between singular and general names is merely one of degree. When the same state recurs a number of times, we name it. When we have a number of states nearly the same except in place, we give them all one name. Hence arise proper and common names, the difference between them being merely in the degree in which sameness exists in diversity.

A definition has been recently offered by the Editor of MIND, to this effect—" Nominalism is the view according to which the mind is declared impotent to know generally or to conceive without the help of some system of definite particular marks and signs." This seems to admit a power in the mind to know generally, which is perhaps more than many nominalists would say. But the question that we have been considering does not seem to me to be touched by this definition ; for the signs may be either attributes or objects. We conceive colour through particular experiences of colour, and having attained the concept, it is thereafter used whenever an experience of colour takes place. Mill says :—" When we think a relation, we must think it as existing between some particular objects, which we think along with it ; and a concept, even if it be the apprehending of a relation, can only be thought as individual, not as general." Doubtless the mind does not think blank relations, although it applies them in all experience. It is also true that any act of the mind is an individual act, no matter what the act may be. In this sense the concept is individual, just as the *person*, recognised as the same by Mill, in the passage above referred to from Whately, exists in individual acts or states.

We have here the suggestion of a far more important question involved in the doctrine of Nominalism. If the dispute were merely as to whether we were reminded of a greater or less number of attributes when we observe any object—for after all, what do Nominalists mean by an object but a collection of attributes?—it might well be concluded that no more time should be wasted in this way. But there is a question that it seems to me the Nominalists have never fairly faced. Again I must refer to the most candid of philosophers. Mill says :—" This notion of a concept as something which can be thought," but "cannot in itself be depicted to sense or imagination," is supported, as we saw, by calling it a relation. " As the result of a comparison," a concept necessarily expresses a relation ; and " a relation cannot be represented in imagination". If a concept is a relation, what relation is it, and between what? " As the result of a comparison," it must be a relation of resemblance among the things compared. I might observe that a concept, which is defined by our author himself as " a bundle of attributes," does not signify the mere fact of resemblance between objects ; it signifies our mental representation of that in which they resemble ; of the " common circumstance " which Sir W. Hamilton spoke of in his exposition of classification. " The attributes are not the relation, they are the *fundamentum relationis*."

It is, however, this "mere fact of resemblance" between objects, that is the source of all dispute. Likeness is an attribute according to Mill's *Logic*, although grounded upon states of consciousness which are peculiar, unresolvable, and inexplicable. Can this attribute be depicted to sense or imagination? If objects resemble each other in but a single respect, may we have a mental representation of that in which they resemble? And if we may have a mental representation of a single attribute, what is the difference between the relation and the *fundamentum relationis*? If we cannot depict this attribute to sense or imagination, of what nature is our knowledge of it? If a number of states resemble each other in a given way, so that we call them all experiences of colour, have they not some common attribute? and can that be depicted? and, if not, how do we know it?

All Nominalists agree that we perceive likeness between different objects. On observing a phenomenon, I at once become aware that it is like some other phenomenon before observed; I cease to observe points of difference and fix my attention on points of likeness. So much all agree upon. Perhaps some Nominalists would say that they discover in two objects something that is the same. This is what the old Realists called the universal, the one in many. If this is not admitted, what is meant by discovering likeness? If it is said that likeness is a relation, we must ask whether there is not involved in every relation a certain identity, or community, or likeness? And if so, we are back at the starting point, and we have discovered something like in different objects, the universal.

Again, using subjective language, I become aware that my present state resembles a previous state. I cease to notice the elements of difference, and attend to the elements of likeness. Have I not discovered in myself the same affections that I had before? Must there not be an element in both states that is the same except in time? I do not understand how this can be denied, and, if it be not denied, then again I recognise the universal. In naming, we observe likeness in a number of states, and fix on a vocal sign that will call up any of them. But one name could not be applied to many different states, unless we had observed something common in them, and this common element is the universal. Because we have observed it, we name it.

Hobbes says:—"This word *universal* is never the name of anything existent in nature, nor of any idea or phantasm formed in the mind, but always the name of some word or name." But if no universality, no sameness, no likeness exist, why are there names common to many things? I wish Hobbes were alive to reply to this dilemma:—If there is no likeness in our conscious states, why do we apply the same word to several of them? and if there is likeness in them, what is meant by saying that universal is not the name of anything existent in nature, or of any idea in the mind? If the objection is simply to calling any natural object, or any given conscious state, *universal*, then few would differ with Hobbes. But he cannot deny the existence of universals, without explaining why we have common names at all.

We get no more light from Hume. "General ideas are particular

ones annexed to a certain term, which gives them a more extensive signification and makes them recall upon occasion other individuals which are similar to them. A particular idea becomes general by being annexed to a general term, that is, to a term which from a customary conjunction has a relation to many other particular ideas and readily recalls them in the imagination." But why has the term had this relation? Whence the customary conjunction? I can think of no reason but the resemblance of the particular ideas.

In spite of the physiological investigations that draw away so many inquirers on what is perhaps a false scent, there is a growing disposition to speak of matter in terms of mind. But the true Nominalist regards both terms as abstractions. To him the only reality is the particular conscious state: self, mind, and matter are all derived from that. In short the Nominalist admits no such thing as substance in the proper sense, the 'what' anything is, as Aristotle says. At the same time the Nominalist must speak of the power we have of discerning similarity. Avoiding the troublesome expression 'external object,' the similarity must be between one mental state and another mental state.

How then can the mind become aware of the similarity between its states, unless there is a persistent consciousness? Or, to do away with abstractions, how can the only real existence, one mental state, have any knowledge of another mental state which it calls its own? It must here be remarked that the question whether we have an immediate knowledge of the past, or not,—discussed among others by Reid, Hamilton and Martineau, and recently (under the heading "Intuition and Inference") laboriously reviewed in the columns of MIND,—this question is of fundamental importance to the present inquiry. I *know* what I feel, as colour, heat, anger. I *infer* the existence of one state from another state. In inference we introduce the law of causation. We can always ask why we infer. We cannot ask why we know. Immediate inference is a contradiction *in adjecto*. It cannot be distinguished from knowledge. But when I say, on the presence of one state, I have had this state before, there is no inference. The knowledge of the present state contains also the knowledge that I have had it before; for there is no ground for inference to rest upon. The only ground assignable is the feeling itself that the state has been felt before, and this is therefore both the inference and the ground of the inference. Suppose any one to tell me that I did not have this state before. I can only reply to him, I know that I did have it. But in a case of inference I can give a reason, *viz.*, the uniformity of nature, which is the ground of all inference.

Let us consider the first mental act involving memory. How can I then infer that a present state resembles a past state? As the present state comes on, there comes with it the feeling of similarity—this is the very essence of memory. Are we ignorant what this feeling of similarity means until we have experienced it a number of times, and then infer that it means the repetition of a state of consciousness? A thousand experiences would not tell us this, unless every one told us

something of it. Continual dropping wears away stone, but it is because every drop wears away the stone ; if it did not, a multitude would not. Unless we know beforehand what the feeling of memory means, we cannot possibly *infer* that it means a former state revived. In two words, unless a feeling has formerly existed, we cannot remember it. The remembrance is the proof, and the only possible proof of its existence.

If it be said that I may be mistaken in supposing a present state to resemble a past state, I reply—Impossible. Mental states are complex, and it often happens that, from the presence of a certain remembered element, we infer the presence of others that we do not remember, and from these others likeness to a past state may be discovered. I see a face and immediately say I have seen that face before. I suppose myself to have an immediate knowledge of that fact. But I may be convinced that I never saw the face before. What then becomes of my immediate knowledge ? Really there were certain features in the face, certain elements in the state, that were the same as some previously experienced, and so much I *knew*. I *inferred* from a partial resemblance of states a resemblance in every respect. I inferred mistakenly. But that I knew mistakenly, is absurd. It is hopeless to maintain that my consciousness that I have experienced a given state before may be deceptive. In that case my consciousness that I have the state now may be deceptive. The principles of the Association-school require this conclusion. If, in a certain complex state, all the elements were entirely new, even in their proportion and composition, could this state recall any other state ? It could not, for lack of any bond of association. If only some of the elements in the state were new, then other states would be recalled by means of the known elements and the process would be inference ; but there is nothing to infer from in the case of a simple act of memory : the feeling that we have had the state before is the act of memory itself, and not an explanation of the act.

In the case of Self, if we call it a bundle of states of consciousness, we imply something that ties the bundle together. A number, or series, or succession of feelings does not make a mind, for they may be anyone's feelings. A thread of feelings, however, implies a connexion. In the case of all association, some bond, or tie, or link is required. In effect I recognise in association the synthetic power of the mind. Two states that have occurred together tend to recur together, and in this way, it is said, we get our idea of cause. But why should these states tend to recur together ? why should present states recall their like ? This may be called an ultimate fact, admitting no explanation. But do we not really postulate a persistent something that is modified, and in consequence of these modifications is liable to them again ?—as we say motion tends to follow an established course. Read through Kant, the Association-school seems to me full of truth. Taken by itself, its fundamental weakness is in the supposition that by successive additions of nothing something will finally be developed. Unless the mind has a native capacity for thinking under the category cause, I do not understand why any number of conjunctions should create the

idea. If there is no discernment of causation in the first conjunction, why should there be any in the second? and if none in the second, why in the third, or in all? Obviously we are expected to believe that every conjunction has some effect in developing the idea. But if it has any effect at all, this implies the pre-existent or co-existent capacity.

All that is meant by Substance is the fact that several attributes or capacities are associated together, and we naturally express this fact by saying that something holds them together. This something is by its nature incapable of definition, for by defining it we should make it predicate and no longer subject. Locke appreciated this when he reluctantly maintained the existence of substance, although no other assertion could be made concerning it. Mill seems often on the point of appreciating this truth, as in the remarkable passage at the end of the twelfth chapter of the *Examination*, and where he maintains that our notion of mind is the notion of a permanent something contrasted with the perpetual flux of the sensations and other feelings or mental states which we refer to it—a something which we figure as remaining the same, while the particular feelings through which it reveals its existence, change. He declares also, that one of the best and profoundest passages in all Sir W. Hamilton's writings, is that in which he points out (though only incidentally) what are the conditions of our ascribing unity to any aggregate. "Though it is only by experience we come to attribute an external unity to aught continuously extended, that is, consider it as a system or constituted whole, still, in so far as we do so consider it, *we think the parts as held together by a certain force*, and the whole, therefore, as endowed with a power of resisting their distraction." Mill needed only to add that this force is the synthetic force of the mind, giving rise to the unity of apperception, and he would have explained why he felt that Hamilton had laid hold of a profound truth. He did not do so, as he might consistently as an idealist have done, and his failure has left psychology still a battle-ground. His opportunity was a rare one, for no man will soon get the ear of the world of thinking men as he did, and physiological investigations will doubtless for some time to come occupy most of the attention of psychologists. Nevertheless the profound truths that Mill was scarcely able to receive—he himself, in his inveterate attachment to his father's school, is the best witness to the power of association—must again engage the attention of thinkers, and philosophy must be regarded as at a standstill until the present policy of dismissing, as old lumber, questions that relate to the commonest mental processes, shall be abandoned. Realism has been succeeded by Conceptualism, because of the gradual growth of Idealism, and is not likely to be revived. The Conceptualists are by no means clear or agreed in their statements, but they seem to be disposed to recognise what the Nominalists ignore. The mind as substance and relations as modes of this substance manifested in knowing, are positions that require on the part of Nominalism more refined analysis and definition than it has yet offered to the world.

DAVID McGREGOR MEANS.

MR. F. GALTON ON GENERIC IMAGES AND AUTOMATIC REPRESENTATION.

Mr. Francis Galton has lately published the results of two original psychological investigations, which are of great interest in themselves and admirable specimens of that kind of positive experimental inquiry to which the phenomena of mind can be subjected in only a less degree than the phenomena of nature. The account of one of his researches is given in a popular form in *The XIXth Century* of March last, under the title of "Psychometric Facts," and with greater precision in *Brain*, Pt. VI., of last July, under the title "Psychometric Experiments". The other is the subject of a paper in *The XIXth Century* of July, entitled "Generic Images". Here Mr. Galton has followed out an earlier line of investigation to which some reference has previously been made in these pages, and a short account of the results to which it has now led him may first be given.

The composite portraits which Mr. Galton sought originally to obtain in illustration of the Types of Human Character (see MIND VIII., p. 573), are now used by him to throw definite light upon what he calls "blended memories," or, after Prof. Huxley, "generic images," —meaning that class of concepts, arising from the fusion of like *sensible* images, which some German writers are in the habit of distinguishing as the *Allgemeine Vorstellung* from the *Begriff* proper. As Mr. Galton, after long trial, has found, two or more portraits that have many points of likeness in common and especially characteristics of a medium quality rather than such as deviate widely, may, if they are of the same size and taken in the same attitude, be combined into one by converging their images from different magical lanterns on the same screen, or through an arrangement of cameras whereby their images are thrown simultaneously on the same photographic plate, or again with one camera by throwing their images, carefully adjusted, upon the same plate successively (which last process best illustrates the blending of memories). The resulting composite portrait is identical with no one of the components, but comprises them all, each having its own share in the total effect; and it is a full picture, not a mere outline like that which Quetelet was able to draw of the typical man by fixing the average position of points according to the ordinary numerical methods of statistics. Including the features of all its components, however great be their number, it is much more than an average: it is, in fact, the pictorial equivalent of the elaborate statistical tables out of which averages are deduced; while, being blurred something like a damp sketch, it shows in the breadth of the blur the variability of individuals from the central typical forms.

Now nothing, Mr. Galton urges, could better represent what is meant by a generalisation, when the objects generalised are objects of vision and belong to the same typical group—that is to say, with medium characteristics far more frequent than divergent ones; and he finds fault with those who, after Hobbes and Berkeley, have too rashly pronounced all generic representation impossible, because it is impossible to frame any definite representation of objects which

no careful statistician would think of putting together—*e.g.*, a representation of man, as including women and children. It is quite possible, he maintains, to produce a good generic representation, if we take any one of the principal races of man, and confine our portraiture to the adult males, or adult females, or to children whose ages lie between moderate limits. For himself, he always experiences, at the moment when the adjustment of portraits to make a composite is being effected, a quick sense of satisfaction like that felt on the first recognition of a doubtful likeness of any kind; and he is as sure as it is possible to be in the circumstances that there is a true (and not merely metaphorical) analogy between catching the coincidence of two similar portraits optically superposed and catching the coincidence of a visible object with a past impression or a pre-existent general idea.

But though he contends for the analogy, he does not now stand by the opinion he expressed in a memoir read last year to the Anthropological Institute, that the composite portrait exactly represents such a generic image as would be had by a mind endowed with the power of pictorial imagination in an exalted degree. In a succession of many different pictures displayed each for the same brief period, if there should be one single picture displayed fifty times in succession or for fifty times as long as the others, its share in the photographic composite (or in the corresponding case of numerical statistics) would be exactly fifty times as great as any of the others; but the like does not hold of the generic image. The familiar fact that sights on which we have not lingered often leave abiding impressions, while the pictures that hang on the walls before our eyes every day of our lives are not always remembered with vivid distinctness, shows of itself how different is the case of mental imagery. Mr. Galton is now inclined to suppose, upon the strength of experiments not yet far enough advanced for publication, that the relation between the varying periods of exposure and the strength of the corresponding *mental* impression follows the law of Weber; according to which, if it requires a tenfold period of exposure to make a doubly deep impression on the mind, it would require a hundredfold period to make a trebly deep one, and so on. But whatever the precise form of the law, its effect, he maintains, is to prevent generic images from having the same definition and simplicity as the corresponding photographs. The most extreme elements will always leave their traces very visibly, because the medium elements are not present in sufficient number to overpower them. In other words, the effect produced by the huge bulk of ordinary facts is never in proportion to their numbers, and undue consideration is given to all exceptional cases. Then, besides this inevitable defect in the mind's power of forming true generalisations, some of the images in every presumed generic group are sure to be aliens to the genus and to have become associated to the rest by superficial and fallacious resemblances; and, again, the number of pictures blended together is sure to fall far short of the whole store that would be available, if the memory were immeasurably stronger than it is and more ready in its

action. All which implies that the human mind is a most imperfect apparatus for the elaboration of true general ideas ; and if there are such defects in its best generic images, much less can trust be reposed in those mere traces of them called "general impressions," that are allowed to govern the majority of our everyday actions as by a precriptive right beyond all question.

Such are the main points of the paper on "Generic Images," given for the most part in Mr. Galton's own language ; to the exclusion, however, of one of his modes of expression which can hardly be justified. When he speaks, as he sometimes does, of a generic image as "a generic portrait stamped on the brain," the phrase is surely misleading : it is not *on the brain* that any portrait is stamped, generic or other. What Mr. Galton seems really to have established is that, just as from coincidence of a number of resembling percepts there may be made to arise a composite percept with a more or less definite character, so a number of similar (representative) images will blend into a compound which, though not so definite as the corresponding composite percept, has still the character of a single image. We do not naturally have the opportunity of blending percepts into one : similar objects are *perceived* by us, in the conditions of our perception, only successively or as standing apart from each other in space. On the other hand, we have in the *concept* a multitude of percepts brought together into a unity quite other than that of a *collection* (whether as actually perceived or as representatively imagined). Now it has always been disputed among psychologists what the precise nature of the conceptual representation is ; and while some have not hesitated to assert that the representation is quite definite not only in the case of the less general concepts, such as *man*, but also in the case of all concepts whatever, to the very widest, others, finding it impossible to represent the more general concepts with any definiteness, have been led on to deny the possibility of representing definitely anything but the singular percept. There are no limits, says the one set of theorists, to the mind's power of definite representation : the least amount of similarity amid whatever amount of difference in whatever number of instances may be definitely imagined. There is the strictest limit, says the other set of theorists, to the mind's power of imagining : the least amount of difference amid whatever amount of similarity in even two instances is a bar to any such imagination of the two together as can strictly be called a conception of them. And so the dispute has gone on, each side having partial hold of the truth. There are concepts which there is no possibility of definitely representing and which the mind keeps hold of only by the help of a definite name or sign. On the other hand, there is a kind of image, more or less definite, which in certain circumstances arises in the mind as representative of a number of resembling objects without being exactly representative of any one of them, and which is thus a true concept. This solution of the long-standing dispute has been at times suggested, and Mr. Galton's experiments may now be regarded as providing the positive verification that was wanting to its acceptance.

His artificial composition of actual portraits shows how the mind would deal with a number of similar percepts could they naturally be presented to sense superposed upon one another; and since, in point of fact, the mind has to deal with a number of similar representative images that are, as it were, superposed on one another, it is reasonable to suppose that the result in natural imagination is strictly analogous to the results obtained in Mr. Galton's artificial perception. At the same time the fact, on which he lays so much stress, that the fusion of percepts has its limits—that a certain amount and kind of similarity is required in the portraits for the formation of a composite—clearly indicates that conception does not always take place by way of imagination, or if by imagination then by one so blurred and indefinite that some other means of definition—*e.g.*, the use of names, &c.—is rendered necessary. And what is here said of the mind applies, *mutatis mutandis*, to the brain, which, though it does not take on "portraits," either in perception or conception, is involved in both of these mental processes and must be supposed to work in a similar fashion in the two cases, so strictly related as they are to one another.

Let us now turn to Mr. Galton's other subject of experiment. Dividing the processes of "thought" into two classes—(1) where "ideas present themselves by association either with some object newly perceived by the senses or with previous ideas;" (2) where "such of the associated ideas are fixed and vivified by the attention as happen to be germane to the topic on which the mind is set"—he confines himself to the first case, where the mental flow of representation is strictly automatic, and his object is to show that it can be rigorously investigated, with the result of laying bare some of the inmost workings of the mind.

The difficulty of the inquiry is that the mental process of representation must be closely watched and yet in no way controlled; and this Mr. Galton surmounted by the following method. Starting from the sight of a number of words, presented one after another, he allowed the mind to play on each for a very brief period till a couple or so of ideas had arisen, each *directly* suggested by the word, and then, turning attention full upon their traces still remaining, he recorded at the time their exact appearance, afterwards collating the records at leisure. This method was a refinement upon an earlier mode of experiment, in which he walked slowly along Pall Mall for a distance of 450 yards, scrutinising attentively every object that caught his eye and dismissing it for another as soon as it had raised a couple of direct representations. Here the record, being made at the end of the whole series, could only be very imperfect, but it was sufficient to show him that the sight of about 300 objects in succession could call up samples of his whole past life, including many bygone incidents which he had never suspected to form part of his stock of thoughts, though they were actually glanced at as objects too familiar to awake the attention. A second trial of the experiment, after a few days, showed however that, strangely active as the mind thus seemed to

be, there was really a very great deal of repetition in the two sets of representation, and thus it became important to devise the other method of experiment, whose results could be submitted to statistical analysis. A selected list of suitable words (carefully dismissed at other times from thought) was gone through by Mr. Galton on four different occasions, at intervals of about a month, in very different circumstances ; each word was disclosed to view without the least knowledge what it would be, and as soon as the requisite associates were obtained (always by way of direct suggestion from the word, on which attention was kept firmly fixed while the associates were taken in as by a half glance), they were written down, with the time they occupied (as ascertained by a chronograph started by pressing a spring at the moment of disclosure and stopped by releasing the spring at the close of each experiment). The work was most repugnant and laborious, and could be accomplished only through great self-control ; but Mr. Galton says he soon got into the way of performing it all in a very methodical and automatic manner, keeping the mind, "as it were, at full cock and on hair-trigger before displaying the word," and undisturbed when the time for stopping came.

With a list of 75 words, these were the main positive results. 505 ideas were suggested in the course of the four trials, during an aggregate time of 660 seconds—at the rate, therefore, of about 50 a minute (which is much slower than the unbroken flow of representations in reverie). But of the 505 actually suggested, only 289 were different ideas. On presentation of the same word, 29 recurred all the four times (making 116 of the total), 36 three of the times (108), 57 twice (114), and only 167 singly. This, says Mr. Galton, shows much less variety than he expected, and proves that the mind is perpetually travelling over familiar ways without our memory retaining any impression of its excursions ; it is apparently always engaged in mumbling over its old stores, and if any one of them is wholly neglected for a while it is apt to be forgotten, perhaps irrecoverably. Nor, as he thinks, is it keen interest and attention, when first observing anything, that fixes it in the memory : we forget the time of trains so carefully studied in *Bradshaw* for a journey, moves at whist, &c., &c. Unless the subject has a continued living interest and is often referred to (consciously or unconsciously), it will, as a general rule, sink beyond recall. There did, in the course of the experiments, come up (under no less than three aspects) one recollection from his boyhood which he thought had entirely lapsed ; notwithstanding, he strongly suspects that ideas which have long since ceased to fleet through the brain disappear wholly, and he is no believer in the common notion that things once perceived can never vanish entirely from the memory but that, in the hour of death or under some excitement, every event of a past life may re-appear. The supposed recollection of a whole past life would turn out to be only of a large number of episodes in it, to be reckoned in hundreds or thousands, certainly not in tens of hundreds of thousands. Mr. Galton adds the remark that, as the associated ideas that came up

were mostly unshared experiences of his own, the experiments show *measurably* how impossible it is in a general way for two grown-up persons to lay their minds side by side together in perfect accord: the same sentence cannot produce precisely the same effect on both, and the first quick impression that any given word in it may convey will differ widely in the two minds.

In 124 cases out of 289, Mr. Galton was able to fix the date at which the associated representations became first attached to the words, with the following results. 48 dated from boyhood and youth, 57 from subsequent manhood, and only 19 were of quite recent date. Also it appeared that of the earliest associations no less than a quarter occurred in each of the four trials; of the second class, one-sixth; while of the most recent, not one came up in all the four trials. Hence, says Mr. Galton, we may see the greater fixity of the earlier associations, and might measurably determine the decrease of fixity as the date of the first formation becomes less remote.

Finally, Mr. Galton sought to classify the associated representations in respect of their intrinsic character and to connect this with the different kinds of words employed to start them. The representations fell into three main groups: (1) the imagined sound of words, as in vocal quotations or names of persons; (2) sense-imagery of all kinds, but especially visual; (3) representations of action performed by self or by others, and which might be called "histrionic". The words presented fell also into three groups: (1) such as *abbey*, *aborigines*, *abyss*, representable under some definite image; (2) such as *abasement*, *abhorrence*, *ablation*, admitting of histrionic representation; (3) such as *afternoon*, *ability*, *abnormal*, more abstract in character. Upon a comparison, then, of the one set of groups with the other, it appeared that of the associates of the *abbey* series, 43 per cent. were sense-images, 11 per cent. histrionic, and 46 per cent. verbal (names of persons being here especially numerous). In the *abasement* series, 33 per cent. of the associates were histrionic, 32 per cent. sense-images (merging into the histrionic), 35 per cent. verbal (names of persons here in the minority, as compared with Biblical scraps, family expressions, bits of poetry, &c.). In the *afternoon* series, as many as 53 per cent. of the associates were verbal (with a great preponderance of mere catch-words), the sense-images and histrionic representations being respectively 22 and 25 per cent. Here the preponderance of catch-words, which intruded themselves before the thoughts became defined, shows with what difficulty the meaning of abstractions is realised; and it even happened in 13 cases that the original word presented was so puzzled over that, within the maximum time of four seconds allowed, either nothing at all was suggested or after a first idea the second was too confused and obscure to admit of record. As to the *order* in which the representations arose, the lead was taken by the Histrionic ones whenever they occurred; Verbal associations occurred first and with great quickness on many occasions, but on the whole they were only a little more likely to occur first than second; Imagery was decidedly more likely to come up second than first.

Mr. Galton concludes his account (in *Brain*) of this remarkable investigation as follows :—

"Perhaps the strongest of the impressions left by these experiments regards the multifariousness of the work done by the mind in a state of half-unconsciousness, and the valid reason they afford for believing in the existence of still deeper strata of mental operations, sunk wholly below the level of consciousness, which may account for such mental phenomena as cannot otherwise be explained. We gain an insight by these experiments into the marvellous number and nimbleness of our mental associations, and we also learn that they are very far indeed from being infinite in their variety. We find that our working stock of ideas is narrowly limited, but that the mind continually recurs to them in conducting its operations ; therefore its tracks necessarily become more defined and its flexibility diminished as age advances."

It is to be hoped that Mr. Galton will continue to work in a vein which his psychological tact renders so fruitful of results. EDITOR.

THE SO-CALLED IDEALISM OF KANT.

In a note with the above title in the last number of MIND, Mr. Henry Sidgwick makes some criticisms on a passage in my reply to Mr. Balfour (MIND XIII.). Mr. Sidgwick has, however, misunderstood what I said, partly, perhaps, from the too great brevity with which I expressed myself ; but partly also, I think, from his not attending sufficiently to the context of the passage which he quotes.

Mr. Sidgwick gives the following re-statement of my views :—

"I understand Mr. Caird to affirm (1) that Kant held a doctrine which may properly be called Idealism, because he regarded the question whether or not there is an existence of things-in-themselves independent of our perception of them as 'meaningless,' and (2) that in his 'Refutation of Idealism,' he substituted for this the question whether or not we have an explicit consciousness of objects in space outside our bodies prior to the explicit consciousness of self as an object."

On this I have to remark, (1) That I did not call Kant an Idealist because of his doctrine in relation to things-in-themselves : on the contrary (as I have shown at great length in my book), I consider that doctrine the main point in which his Idealism is incomplete. Still, I think it is quite fair to contrast Kant's philosophy as Idealism with the so-called Idealism of Berkeley, which should rather, I think, be called an undeveloped Sensationalism. (2) As I do not deny that Kant held the doctrine of the existence of things-in-themselves, I could not possibly say that, in every point of view, the problem whether they exist or not was to him unmeaning (though of course I hold that the legitimate result of his transcendental method is to do away with them). But what I meant to say, in the passage quoted by Mr. Sidgwick, was, that the idea of transcendently deducing the existence of things-in-themselves as objects of experience, in the same manner as he attempts in the 'Refutation of Idealism' to deduce the existence of phenomenal objects in space, would have been, for Kant, unmeaning. And for this, I think I can bring Kant's own words in evidence. (3) I said nothing about the "con-

sciousness of objects in space *outside our bodies*"; the words italicised would deprive Kant's argument, as I understand it, of all meaning, for what he seeks to show is that inner experience implies outer experience, and the consciousness of our bodies is surely not a part of inner experience.¹ My point, in short, is, that the problem of the relation of inner to outer experience takes for Kant the place which in previous philosophy had been given to the problem of the relation of consciousness to things outside of consciousness. I shall say a few words on each of these points.

(1) Before the passage quoted by Mr. Sidgwick I used the following words:

"Mr. Balfour tries to fortify his argument by saying that Idealists, of all men in the world, as they hold that the *esse* of things is their *intelligi*, ought to hold that there is nothing in the thought of the individual of which he was not conscious. Now, Idealism is based on the truth that the only intelligible meaning of objectivity or existence, is objectivity for a thinking subject, and that of an object external to thought we can say nothing. But this no more implies that the individual subject must have brought to consciousness all that is involved in his knowledge of objects, than it implies that every individual subject must be omniscient." Then follow the words quoted by Mr. Sidgwick: "The truth is that Mr. Balfour has never realised the difference between the so-called Idealism of Berkeley and the Idealism of Kant," &c.

The distinction which I was here attempting to express will be clear, if we remember that, for Kant, the contrast between 'my ideas' (*Vorstellungen*) and 'things outside of me' has two meanings. In one sense he would agree with Berkeley that we can know only our own ideas—in the sense namely, that we cannot know things which are *out of consciousness*, which cannot therefore be brought in relation to the conscious self. But in another sense he insists that we do know things out of ourselves; *i.e.*, things that are different from that series of inward states which constitutes the empirical self. The main aim of the 'Transcendental Deduction' is to show that we are conscious of objects, and of a world of objects, not through mere sense, but only in so far as the one self manifests itself as a synthetic principle, which binds together the manifold of sense by means of the Categories. But the complementary truth is, that we are conscious of the permanent unity of the self in the succession of its feelings or conscious states, only in distinction from, and in relation to, the world of objects so determined. The opposition of 'things outside of us' to 'our ideas,' *i.e.*, of the world of objects in space and time to the feelings, perceptions, &c., of the individual, as a series of states in one permanent subject, is therefore an essential part of the Kantian doctrine. And it is by this most of all that he is distinguished from Berkeley, to whom the *percipi* and not the *intelligi* is the *esse* of things. In other words, Berkeley could not legitimately hold that we

¹ Of course things outside of me might mean out of my body. A thing can only be *in* space as it is *out of* something else in space, and in familiar parlance we speak of our bodies as ourselves. But this is not one of the two senses which Kant distinguishes.

know more than the states of our own individual subjectivity, while to Kant this individual subjectivity is merely one of the objects of experience, which we know in distinction from, yet in relation to, the other objects of experience.

(2) The 'thing-in-itself,' is a presupposition which Kant makes at the beginning of the *Critique*, in order, as he afterwards tells us, "that we may have something to correspond to the sensibility as a receptivity". Ultimately, when the question arises as to the validity of this presupposition, Kant says that it is no object or element of experience, but merely a '*Grenzbegriff*' or limitative conception, which prevents us from assuming that in experience we are cognisant of the absolute reality of things. On the other hand, it casts no light on anything beyond experience, and, therefore, so far as experience or knowledge is concerned, we can know nothing of the thing-in-itself, not even that it exists. This Kant expresses in the following way :

"The understanding limits the sensibility without enlarging its own scope ; when, therefore, it warns the former not to presume to speak of things-in-themselves, but merely of phenomena, it represents to itself an object in itself, though merely as a transcendental object, as a cause of phenomena (which is not in itself a phenomenon). This object, however, it cannot think of either as quantity, as reality, or as substance, &c. (for all these conceptions require sensible forms in which they determine an object), and of it, therefore, we cannot say whether it is within or without us ; whether if sensibility were taken away from us, it (*i.e.*, the thing-in-itself) would disappear along with the sensibility, or whether if the sensibility were taken away from us it would yet remain. If we please to call this object Noumenon, because the idea of it is not sensuous, we are at liberty to do so. As, however, we cannot apply to it any of the conceptions of the understanding, this idea remains for us empty, and is of no use whatever, except to mark the limits of the knowledge which we can get through sense, and to leave a space open which we are able to fill up neither by means of any possible experience nor by the pure understanding."—(*Kritik d.r.V.*, Ed. Rosenkranz, p. 234.)

The idea of the *Ding-an-sich* or Noumenon, is, therefore, merely a conception which limits our empirical knowledge ; though, as we farther learn from the 'Dialectic,' it supplies us with an ideal to aim at in adding to that knowledge. By itself, it cannot be an object of knowledge in any of the three forms which it takes, in relation to inner experience, to outer experience, and to the totality of experience. For Kant, however, its existence becomes an object of belief, even of certitude, through the moral consciousness, and that in all its three forms, as consciousness of self, of the world, and of God. It is, therefore, in the idea of freedom, that is, of the self as a self-determining being, that Kant finally finds the key-stone that locks together the different parts of his philosophy and binds the end of it with the beginning. "This," he says, "is what Archimedes sought, a fixed point to which reason can apply her lever, resting it neither on the present nor on the future world, but on its own inward idea of freedom, which is presented to us as a secure basis through the immovable moral law". Or as he elsewhere puts it, "the idea of an intelligible world is only a point of view which intelligence sees itself forced to take up in order to

think of itself as practical". (*Werke VIII.*, p. 93.) The same view is briefly indicated in the preface to the Second Edition of the *Critique of Pure Reason*. Of course I do not here attempt to criticise Kant's doctrine, but merely to point out on what basis he ultimately rested that belief in the existence of things-in-themselves with which he started but which might seem otherwise to be made impossible by the advancing application of the transcendental method.

(3) With relation to the 'Refutation of Idealism,' Mr. Sidgwick's argument seems to me to rest upon the ambiguity already mentioned as to the contrast between 'things outside of me,' and 'my ideas,' as if the assertion of Kant that we know real things without us, and not merely our own ideas, *must mean* that we know things-in-themselves. And this presumption, Mr. Sidgwick strengthens by reference to a passage in the *Prolegomena*, where, in opposition to Berkeley, Kant asserts his belief that things-in-themselves exist without us, though we know them only in their phenomena. But, in the first place, it is to be noted, that in the 'Refutation of Idealism,' Kant is not arguing against Berkeley, whose doctrine was that the only thing is the perception, but against Descartes, to whom he attributes the doctrine that we *immediately know* only our own states of consciousness, and that from them we *infer* the existence of things without us. And in opposition to this doctrine, he naturally develops his view that the consciousness of our own ideas as states of ourselves presupposes the consciousness of objects in space, which are *without us* in the sense of not being part of that series of feelings or ideas which we identify with the self as opposed to the not-self. Nor in this 'Refutation' is there, as it seems to me, a single hint that Kant is speaking of things-in-themselves. On the contrary he begins by saying, that his object is to prove that "we have of outward things not merely imagination, but experience," and that he can best do this by showing that even "our inner experience, which was not an object of doubt to Descartes himself, is possible only under the presupposition of outward experience". And after the proof is finished, he repeats that he has been proving that "we have not merely outward imagination, but outward perception," and that he has been seeking to turn the tables upon those who had said that we reach our knowledge of outward things merely by reasoning from effect to cause. And the argument itself is based on the idea that it is only in outer experience, i.e., under conditions of space with its permanent self-external parts, that we can find a matter of sense that can be brought under the category of substance, which is the basis of all time-determinations. Here again I do not stop to criticise the argument, but it is one which was familiar to Kant, and which reappears in many places of his works (cf. *Kritik d.r.V.*, p. 304, and *Metaph. Anfangsgründe*, p. 405, where the thought is most fully developed).

For the rest, it is quite true that Kant does not hesitate to speak of the thing-in-itself as *given* to us through sense, any more than he hesitates to speak of the object of experience as so given (cf. the first sentence of the 'Æsthetic,' where we find the two identified or confused together); but, as it is the whole purport of the 'Transcendental

'Analytic' to show that objects of experience are known to us as such only through the synthesis of the Understanding, so, in the 'Dialectic' and the *Critique of Practical Reason*, he maintains that the *ideas* of things-in-themselves, i.e., of the three Noumena, are derived only from Reason, and that the *certitude* of the existence of such objects comes to us only through the moral consciousness.¹

With regard to the name 'Idealism,' it was not my intention to raise any controversy. How I came to use it, is shown by the first sentence of the quotation given above from my reply to Mr. Balfour. But if Plato is to be taken, as surely he should be, as the type of Idealism, it is a waste of good words to apply the name to any form of Sensationalism. And if this be true, Berkeley can be called an Idealist only because of the inconsistencies of his earlier theory, or because of the later view indicated in the *Siris*. Further, as is shown by the writings of Mr. Spencer and many others, this misuse of the term has led to great confusion; for, partly because of it, Kant, and even his most thorough-going Idealistic successors, have been assumed to hold the theory that all we can know is the states of the individual consciousness.

EDWARD CAIRD.

VII.—CRITICAL NOTICES.

The Data of Ethics. By HERBERT SPENCER. London: Williams and Norgate, 1879.

In the immense abundance of literary production a great deal of criticism is avowedly calculated to supersede the perusal of the works themselves. Such a book as the present, however, is among the rarest; and being on the most interesting of all themes, and withal lucid and short, the critic would be much mistaken in assuming that it will not be read by his own readers and many besides.

The field of Ethics has been crossed and re-crossed in many directions; and we are now called to follow a new and unbeaten track. Our interest and expectation are awakened, not simply on account of the general philosophic ability of the writer, which disposes us to listen to him on any topic that he may see fit to take up, but also because he regards the work before us as the end and outcome of all his labours, the object to which all the preceding parts of his systematic elaboration are preparatory. The philosophy of Evolution, which he has spent his life in constructing, is here to reach its application to practice. With a view to the popularity of the work, this may seem a disadvantage, as comparatively few of those that are attracted to a

¹ It may, of course, be doubted whether the crude Realism of Kant's first language can be vindicated from the point of view of the *Critique of Practical Reason* (*cf. Phil. of Kant*, p. 530).

book in morals have followed the author through his long precursory series of *magna opera*; yet the disadvantage is not so great as might be so supposed, for such is the expository clearness gained from long familiarity with the materials, that the work is self-explaining in a remarkable degree.

Although thus disclaiming the purpose of dispensing with the independent perusal of the work, yet without making a general survey of its plan and leading ideas I am unable to criticise any portion intelligibly.

The preliminary question necessarily is the definition or province of Ethics. What is meant by Conduct, and what by good and bad conduct? Conduct is the adjustment of acts to ends. As to Good and Bad, we must proceed systematically through the animal series; or trace the "Evolution of Conduct". The lowest creatures are characterised by insufficient adaptation of actions to the ends of existence; they move about at random, and live at the mercy of chance. But proceed upwards from the infusorium to the rotifer, and we find the actions better accommodated to the situation, and as a consequence greater chances of preservation. Move still upwards to the higher vertebrates, and look at the superiority of an elephant to a cod; go yet farther, and compare the civilised with the savage man: we find the same expression to apply—the multiplication of activity in the serving of useful ends, whereby life is increased both in length and in breadth. Turn next to the conservation of the species by the treatment of the young, and we find the same progress; in the lowest creatures only one germ in ten thousand comes to maturity. Lastly, take into account the social situation, where individuals act and react on each other, whether for prey or for assistance. There is here a like progress, shown in the like results; in the lower stages, mutual destruction; in the higher stages, mutual co-operation, with greater security of life and greater amounts of enjoyment.

This survey being premised, let us ascertain the meanings of Good and Bad. A good action is one that subserves either individual life, or the rearing of offspring, or the interests of the society at large. The relatively good is the relatively more-evolved. The highest conduct of all is what best reconciles all the three ends. Having reached this point, the author asks—Is there any postulate involved in these judgments of conduct; and answers Yes, namely, the question—Is life worth living? which question he briefly discusses, making out that both optimist and pessimist must assume that life is satisfactory or otherwise, according as it does, or does not, bring a surplus of agreeable feeling. He disposes of the ascetic theory as being the product of the inferior religious creeds; and in so far as any persons in the present day retain the ascetic view, he runs them into absurdity by asking what they mean by the virtue of administering to a sick person; is it to increase the pains of illness? He then reviews the ethical end expressed by "perfecting" one's nature, and shows that there is no other test of perfection than "complete power of all the organs to fulfil their respective functions". Then as to making "virtue" the

standard, he criticises Aristotle and Plato, and finds that they are playing off juggles of language. He next argues that virtue could not be upheld as virtue unless on the supposition that it is pleasurable in its total effects. Again as to the "intuitive" theory, he shows that the holders cannot, and do not, ignore the ultimate derivations of right and wrong from pleasure and pain. He admits, however, that there is still among us a survival of the devil-worship of the savage, seen in our delight in contemplating the exercise of despotic power,—the worship that owns Carlyle as its prophet, disguising itself by denouncing happiness as pig-philosophy, and substituting "blessedness" as the end. So much for good and bad conduct.

In a new chapter, the author pursues the criticism of the ethical theories, under the title, "Ways of judging conduct". As a preliminary remark, he shows us with what exceeding slowness the idea of causation has been evolved. He is struck with the fact that all the theories—theological, political, intuitional, utilitarian—are characterised either by the entire absence of the idea of causation, or by an inadequate presence of it. Thus the theory of the "will of God" originates with the savage whose only restraint besides fear of his fellow men is fear of an ancestral spirit. Now the notion that actions are good or bad simply by divine injunction is tantamount to saying that they have not in their own nature good or bad effects. After reviewing Hobbes and the Intuitionists, he tells us that even the Utility school is very far from recognising natural causation. In other words, he enunciates his known principle, of which the present volume is the expansion, that morality is not an induction from isolated facts, but a deduction from the processes of life as carried on under established conditions of existence. The proof of this principle needs a survey of Ethics under four aspects—Physical, Biological, Psychological, Sociological.

In the four chapters devoted to the survey, Mr. Spencer's ethical foundations are laid. To begin with the Physical view. This treats conduct as so much motion suited to its purposes by paying respect to the law of conservation of force; in which view the ethical progress is progress to duly-proportioned conduct; and that conduct is increasingly coherent and definite, increasingly heterogeneous or varied, and tending to balance or equilibrium. "Complete life in a complete society is but another name for complete equilibrium between the co-ordinated activities of each social unit and those of the aggregate of units." The author admits that there is some strangeness in thus presenting moral conduct in physical terms.

The Biological view takes account of man's nature as an organism, or an aggregate of organs, to be maintained in due condition by regulated exercise, rest, and nutrition, and as liable to disorder by excess or defect. According to this view, the moral man is he whose functions—numerous and varied though they be—are all discharged in degrees duly adjusted to the conditions of existence. It is immoral to treat the body so as in any way to diminish the fulness or vigour of its vitality. One leading test of actions is—Does the action tend

to maintenance of complete life for the time being, and does it tend to prolongation of life to the full extent? This position is not simply the consequence of the necessity of living in order to be happy; it takes us up to the farther doctrine that happiness is fulfilment of function in each and all of the organs. In fact the law of pleasure and pain—connecting pleasure with vitality and pain with the opposite—is here invoked as an indispensable link in ethics, and as one of the ways of rendering the science deductive, and of superseding the laborious if not impossible calculations of empirical hedonism. In this chapter Mr. Spencer illustrates the truth at great length as a practical and moral lesson, and one as yet very imperfectly apprehended. The dependence of the mental on the physical, so completely neglected by our forefathers in all but the most obtrusive instances, has been gradually receiving more attention, and Mr. Spencer will be hereafter distinguished for giving it an additional impetus, as well as for contributing to its more precise definition. It must necessarily enter more and more into the guidance of human conduct, and must to that extent become an ethical factor. The doctrine in his hands cuts closer than ever; he proceeds upon the assumption that pleasure points out the way to the healthy discharge of the functions, and pain to the opposite. He is not unaware of the exceptions, and regards them as an imperfection of adjustment destined to pass away as evolution reaches its term.

The Psychological view takes us to the genesis of the moral consciousness through conflict of states, and through the subordination of lower ends to higher. In order to this we must conceive pleasures and pains in the future, and by such conceptions hold in check all present urgencies incompatible with remoter interests. The yielding of the lower to the higher may, however, be carried to excess; the subordination is a conditional subordination. The pleasures of the present are not to be absolutely sacrificed to the pleasures of the future; the present is always to be counted at its own value in striking the balance. Mr. Spencer illustrates this by the practical absurdity of men living entirely for the future. The source of the feeling called moral obligation is now indicated. The essential trait being the control of some feelings by some other feelings, Mr. Spencer traces the different species of control from without, in political government, religious fear, and the general influence of society. All these have evolved with society, as means of social self-preservation. The penalties accompanying them impart the feeling of coercion, in other words, the sense of moral obligation. At the same time we are not to exclude from the aggregate the earlier and deeper element of self-regarding prudence, based on the penalties of improvidence. But now the moral motive, arising at first from external sources, is destined to transformation when the individual mind is completely accommodated to the social situation. The higher actions required for the harmonious carrying on of life, will be as much matters of course as are those lower actions prompted by the simple desires.

The Sociological view, already implied, is the supplement of the

physical, the biological, and the psychological views. It teaches the modes of conduct for reducing individual antagonisms, and bringing about mutual co-operation. Out of this, by necessary deduction, we obtain the reasons for fulfilling contracts, for assigning benefits in proportion to services, which is Justice ; and farther for the rendering of gratuitous services, in a certain degree, which is Beneficence. We see how social life is furthered, not merely by mutual abstinence from harm, but by exchange of services beyond agreement.

In a separate chapter, entitled "Criticisms and Explanations," Mr. Spencer compares his deductive theory of conduct with the Utilitarian computation, as handled by Bentham, Mill, and Sidgwick. I will return to this on completing the survey of his entire scheme. His next chapter is an illustration of the dependence of pleasures and pains on the state of the organism, and is equally necessary for his purpose, as being the completion of the theory of pleasure. People have often supposed that pleasurable agents, such as sugar to the taste, are so by intrinsic and absolute quality, the same to all persons in all situations. This is soon shown to be a mistake ; and the opposite truth is one of great importance in the ethical point of view. Physical pain is immensely greater in a highly developed nervous system. Exercises that give great pleasure to some creatures give none to others ; the system being in the one case adapted to them, and in the others not. Emotions presuppose a suitable organisation. Destructiveness will give way to amity, if the nervous arrangements for one are atrophied by disuse, and those for the other persistently exercised. The civilised man is distinguished by contracting the same delight in peaceful industry as the savage feels in war and the chase.

The two next chapters—"Egoism *versus* Altruism," and "Altruism *versus* Egoism"—are the most incisive in the whole book. The relation of Altruism to Egoism is subject to habitual exaggeration even to the extent of self-contradiction, and Mr. Spencer brings a rigid scrutiny to bear on the whole question. His position is—the permanent supremacy of egoism over altruism ; and he elucidates this in his systematic way. He cites numerous striking examples to bring home the truth that the first condition of the performance of duty to others is the perfect vigour and competence of the agent's self. As a pertinent moral lecture, nothing could be more effective. He allows that his view is the one practically recognised among men, and only regrets that the nominally-accepted beliefs should be at variance with it.

In the chapter on Altruism, Mr. Spencer, by a review of the entire social situation of human beings, endeavours to assign the exact scope and value of our sympathetic regards. While avoiding all exaggeration, he proves, by numerous and striking examples, the value of altruistic conduct to all and to each. The dependence of egoism upon altruism tends ever towards universality, becoming greater as social evolution advances.

He next proceeds to consider the conflict of the two principles, which leads him a second time to discuss the Utilitarianism of Bentham and John Mill. He inquires what guidance the principle of

"the greatest happiness of the greatest number" offers (1) to public policy and (2) to private action; and pronounces it defective as undertaking an impracticable operation, *viz.*, first to gather all the happiness of mankind into one stock, and then to apportion it properly among individuals. I doubt, however, whether either Bentham or Mill conceived the doctrine of Utility as necessitating any such operation. The essence and strength of the doctrine seem to me to be brought out by Bentham's two negatives of it—Asceticism and unreasoning Sentiment; to both of which Mr. Spencer is as much opposed as Bentham. The positive expression—the greatest happiness of the greatest number—is not itself happy, and was ultimately reduced by Bentham to the simple expression, "Greatest Happiness," which in its convenient vagueness seems to defy hostile criticism. How the greatest happiness of mankind is to be arrived at remains open for discussion. There is a general agreement at the present day that the best course is for each individual to occupy a limited sphere without thinking of the universal happiness. Mr. Spencer seems to me to be arguing for several pages without an opponent. The expressions that he quotes from Bentham and Mill need to be taken along with their whole system, which is, to my mind, not so very far from Mr. Spencer's own. They would say that Society should confine itself to protecting each man and woman in the pursuit of their own happiness in their own way. "This is the text of Mill's *Liberty*. I admit that they are not able to prove beyond dispute, that the greatest Happiness will be attained in this form; but as far as the needful computation can be carried, they think it is in favour of such an arrangement.

The discussion has, at all events, been brought to the point of stating that Ethics is a regulated compromise between Egoism and Altruism. What remains is to consider the possibility of an ultimate conciliation. The position at present being that Egoism is too strong or Altruism too weak, the conciliation must work by finding some means of strengthening the altruistic promptings. Mr. Spencer sees in the tendencies of Evolution a progress in this direction. In an interesting dissertation on the sources of Sympathy, he endeavours to point out that the faculty admits of development in two ways, *viz.*, the natural language or expression of the feelings, and the susceptibility to that expression as witnessed. He expects such an increase in these two powers as to reverse the predominance of egoism, and to make altruism the prevalent fact of our constitution in minds generally, as it is at present in a few. There will then be as much competition in rendering services as there is at present in exacting them. Indeed, the difficulty will be to find scope for the altruistic cravings. The spheres finally remaining will be chiefly (1) family life, in which the care of children by parents and of parents by children will be better fulfilled, (2) social welfare, in the improvements of the social state, and (3) private relations, where the casualties of life will always afford occasion for help to the sufferers. "Far off as seems such a state, yet every one of the factors counted on to produce it may already be traced in operation among those of highest natures. What now in them is

occasional and feeble, may be expected with further evolution to become habitual and strong ; and what now characterises the exceptionally high may be expected eventually to characterise all. For that which the best human nature is capable of, is within the reach of human nature at large."

In a chapter entitled "Absolute and Relative Ethics," Mr. Spencer defines Absolute Ethics as formulating the normal conduct for an ideal society, such as we shall have in the future, and Relative Ethics as the science that interprets the phenomena of existing societies in their transitional states, labouring under the miseries of non-adaptation. The co-existence of a perfect man and imperfect society is impossible ; and could the two co-exist, the resulting conduct would not furnish the ethical standard sought. Among people that are treacherous and without scruple, entire truthfulness and openness must bring ruin. "Hence it is manifest that we must consider the ideal man as existing in the ideal social state. On the evolution-hypothesis, the two presuppose one another ; and only when they co-exist, can there exist that ideal conduct which Absolute Ethics has to formulate, and which Relative Ethics has to take as the standard by which to estimate divergencies from right, or degrees of wrong."

The final chapter—"The Scope of Ethics"—is the summary and outcome of the whole, and offers the easiest means of comparing the author's point of view with the prevailing theories. The Ethics of Personal Conduct is the best defined of all, from the requirements being so largely affiliated upon physical necessities. If this Ethics could be made perfectly definite, it would necessarily go a far way towards settling the Social Ethics, which is made up of individual interests, and has for its function the balancing of each against the rest. The first division of Social Ethics is Justice, which is the prime condition of co-operation. The final division is Beneficence, negative and positive, involving all those nice adjustments of egoism and altruism previously commented on.

While there are many questions of great interest propounded for debate in this highly original work, I must be content with adverting to what I gather to be the author's main position—the displacing of Utilitarian calculation or Empirical Hedonism by an Ethics of Evolution. Not that the acceptance of the Evolution-hypothesis is an essential preliminary ; if it were so, a great many people would at once refuse a hearing to the whole speculation. The relationship of the physical and mental, taken as a matter of fact, is in reality the chief corner-stone of the whole erection.

Mr. Sidgwick, after stating the difficulties attending an Empirical Hedonism, as a means of investigating right and wrong, examined the various alternative methods "of determining what conduct will be attended with the greatest excess of pleasure and pain, so as to dispense with the continual reference to empirical results, which it has been found so difficult to estimate with accuracy". In Book II., chapter vi., of his *Methods of Ethics*, he took up Mr. Spencer's

views as propounded in *Social Statics*. To this chapter, Mr. Spencer expressly replies in his "Criticisms and Explanations". The real reply, however, is the entire volume. We must peruse and assimilate the whole, before giving an opinion on the question as between Evolution and Empirical Hedonism. I had occasion to remark, in noticing Mr. Sidgwick's work (*MIND*, I, p. 185), that the hedonic or utilitarian calculation admits of being helped out by a variety of devices such as to mitigate the apparent hopelessness of the problem. Every suggestion of this nature should be welcomed and made the most of. Now Mr. Spencer re-casts the mode of propounding the problem, without altering its essential character as an inquiry into the best means of attaining happiness. But he does more than this. He provides certain new lights that were not possessed by the earliest theorists on the side of Utility.

The comparison with Empirical Hedonism is best taken in the Personal Ethics. It is admitted that a code of personal conduct can never be made entirely definite. "But ethical requirements may here be to such extent affiliated upon physical necessities, as to give them a partially-scientific authority. It is clear that between the expenditure of bodily substance in vital activities, and the taking in of materials from which this substance may be renewed, there is a direct relation. It is clear, too, that there is a direct relation between the wasting of tissue by effort, and the need for those cessations of effort during which repair may overtake waste. Nor is it less clear that between the rate of mortality and the rate of multiplication in any society, there is a relation such that the last must reach a certain level before it can balance the first, and prevent disappearance of the society. And it may be inferred that pursuits of other leading ends are, in like manner, determined by certain natural necessities, and from these derive their ethical sanctions. That it will ever be practicable to lay down precise rules for private conduct in conformity with such requirements, may be doubted. But the function of Absolute Ethics in relation to private conduct will have been discharged, when it has produced the warrant for its requirements as generally expressed ; when it has shown the imperativeness of obedience to them ; and when it has thus taught the need for deliberately considering whether the conduct fulfils them as well as may be."

Mr. Spencer's great advantage then consists in the primary and constant reference to the physical side of our being. For a very large part of our happiness, physical tests may be assigned ; and the problem is transferred from the purely subjective estimates, which are so vague, to objective conditions which are comparatively well defined,—from the inward and spiritual grace to the outward and visible symbol. The author's antagonism is not towards the utilitarians as such, but towards the almost universal disregard of physical conditions by our fore-fathers. He is not the first to call attention to this great desideratum ; but he makes a more thorough and systematic employment of it for the ends of happiness. Lord Shaftesbury said long ago that there were among us human creatures in such vile physical conditions that

even religion was not possible to them. It would not be difficult to assign the lowest pitch of worldly means compatible with the fair requirements of a human being. The settlement of this point precedes all computations of pleasures and pains ; or rather it is a short cut to the goal. The Utilitarian has more or less enjoyed the advantage, without being so fully aware of it as he might be ; for he has not scrupled to use worldly abundance as a first rough test of well-being ; and if the test were only rigorous and thorough, there would be nothing perplexing in the hedonistic calculation ; it would be as simple as common arithmetic. Personal Ethics would be—Make a sufficient amount of money ; Social Ethics—Do not defraud any one, and be ready, on suitable opportunity, to help those that are in need. The hedonistic difficulties begin where money gained and expended is not commensurate with happiness. Moralists in all ages (Aristotle perhaps excepted) have delighted to dwell upon the occasions where the two things are incommensurable. A better consideration of the human organism, supplying a better knowledge of physical conditions, explains many of the exceptions, and helps to re-instate the problem on a definite basis.

The best way to compare the two methods would be to try them upon some of the contested questions of life and society. Mr. Spencer incidentally overhauls a good many of the common-place usages and views, and rectifies them upon his principles. He shows the absurdity of men living and working all for the future, and depriving themselves of nearly every present indulgence. He earnestly inculcates the necessity of counting the present loss in the estimate of the future gain. This, it might be said, is merely empirical hedonism. So it is, with this addition, that loss of pleasure is loss of vitality ; the question of pleasure and pain being now resolvable into the question—To be or not to be ? Of course such a sweeping doctrine is to be held with certain qualifications and exceptions ; and the point is—Can these qualifications be rendered definite ? A rule with well-defined exceptions is practically universal.

Without assuming that Mr. Spencer has propounded a new doctrine, the antithesis of the doctrine of Utility, he may claim to have put forward a new point of view, in the working out of the doctrine ; a point of view that does not admit of being re-argued, until it has been tried. Who shall say what amount of gradual transformation of ethical conceptions will follow from steadily regarding conduct under the lights that he has afforded ? He will be a bold man that can treat the regard to the physical organism, its capacities and developments, as of no importance in the hedonic computation ; and if it is of importance, Mr. Spencer shows the way to turn it to account.

The bright future of complete accommodation of man to his circumstances, brought about by Evolution, is cheerful to contemplate ; and if it be a work of imagination, it is at least based on science. The Socialism that Mill would work out by a long course of education, is clenched, according to Mr. Spencer, by inherited modifications, and material guarantees. Our fervent wishes are with both.

A. BAIN.

The Realistic Assumptions of Modern Science Examined. By THOMAS MARTIN HERBERT, M.A., late Professor of Philosophy and Church History in the Lancashire Independent College, Manchester. London : Macmillan, 1879. Pp. xi, 460.

The work of the late Professor Herbert, divided into three chapters, falls naturally into two parts, the first, critical and destructive, the second, expository and constructive. Chapter I., on the Dualistic view of Mind and Matter involved in Realism, and chapter II., on the Explanation of the Facts of Consciousness offered by Realism, make up the first, larger, and more important part of the volume. Chapter III. contains an exposition of the Idealist or Transcendental theory with application to various problems lying on the borderland between philosophy and theology, e.g., the possibility of cognising the existence of God and of determining the Divine attributes.

The question treated in both parts of the volume is generally that of the relation between subject and object in knowledge or conscious experience, and more particularly that mode of the relation which is called in the technical phraseology of philosophers, *commercium corporis et animae*. The author rightly apprehends that solution of this more special problem is impossible apart from consideration of the wider question, and he has little difficulty in showing that the peculiar explanations of it offered by scientific or philosophic writers involve some one or other of the various theories as to the nature of external things and the mode by which they are cognised. We are inclined to think that the course both of his criticism and of his exposition would have been facilitated had he at the outset indicated more sharply and formally the nature of those general theories from which follow the answers to the special problem to be discussed by him. It is plain that the principles on which his own procedure rests are those familiar in philosophy since the period of Kant, and were we to characterise briefly the purport and merit of Professor Herbert's work, we should describe it as a careful, thorough-going, and very able attempt to develop and apply the fundamental ideas of Kant's critique of rational psychology. The distinctions which supply foundations to his review of scientific attempts at explanation of the union between Soul and Body are throughout Kantian, though it may be observed that in the expository portion of his work he tends to identify the critical or transcendental idealism with the subjective or empirical idealism of Berkeley. Nor does he bring into sufficient prominence what is in many ways the most remarkable result of the critical method, the limitation and the grounds for the limitation of scientific notions (such as substance and cause) to the facts which make up the experience of a conscious intelligence.

The fundamental principle from which Mr. Herbert's examination starts may best be stated in the words of Kant. "I assert," says Kant, "that all the difficulties with which these questions (*i.e.*, com-

munity of Soul and Body, etc.) are supposed to be beset, rest on a mere delusion, by which what exists only in our thoughts is hypostatised and is regarded as having an existence with the very same qualification (or determination) beyond the thinking subject; e.g., extension, which is only a phenomenon, is regarded as a quality of external things in independence of our sensibility, and motion is regarded as the action of these things, also existing in itself beyond our senses." In other words, phenomena which are only for intelligence are taken to be things-in-themselves existing *beyond* experience, so constituted as they are found to be *in* experience, and giving rise by their action to those very modifications of sensibility which in common life and science are called phenomena. This abstraction from the necessary conditions of phenomena is the origin of the view called by Kant Transcendental Realism and criticised by Mr. Herbert as Realistic. (*Cf.* pp. 3-6, 99-102, 146-8, 169-70.)

It follows as an immediate consequence from this Realistic conception that a sharp distinction must be drawn between things and the sentient subject whose consciousness receives its filling-in from these things. The soul or intelligence is viewed as one thing among others, as one of the substances which standing in reciprocal relation compose the mechanical unity of the world. And the mode by which these substances communicate is thought by means of the notions appropriate to mechanism, vibrations of external environment, vibrations of neuropasm (nervous tremors) and similar vibrations of 'psychoplasm' (nascent or rudimentary sensations). (*Cf.* pp. 23, 32, 62-6, 78-80.) Hardly has such a view been formulated than it becomes apparent that for a consciousness so formed by the operation of external things no cognition of such external things is at all possible. The subject is absolutely confined to the successive states produced *ab extra* and composing its very substance. Thus a transcendental realist, as Kant points out, is the very man to turn empirical idealist, and to affirm in the same breath that states of consciousness are produced by external things, and that the existence of such things is absolutely unknown, our knowledge being of necessity limited to states of consciousness. (See Huxley's *Hume*, pp. 78, 80, 81.) If such a thinker be gifted with logical consistency he then proceeds to affirm that the things to the operation of which all the contents of consciousness have been assigned are incognisable, for us non-existent, and that the ultimate reference of all we know must be to a substratum of existence alike unknown and unknowable. Lange, Huxley, and Spencer furnish the best illustrations of this line of thought. It is evident, however, that the conclusion reached and the premisses from which it is drawn have nothing in common, and that the inference is made by assigning a double signification to the 'things' in question. The 'things' referred to in the first instance, the motions or whatever they may be, and thought as the causes of internal states, as determining the connexions among the elements of conscious life, are the things so constituted as they appear in our experience, not the unknown, the existence and connexions of which may in no way re-

semble our experience or conceptions. Only by passing from the things as facts of experience to the things as giving rise to experience do we make the transition from scientific to 'transfigured' Realism.

The Realistic assumption, then, may be examined from two points of view. We may, in the first place, investigate the inner consistency of the development from the conception of subject and object (or, say, *psychosis* and *neurosis*) as things forming parts of the same order of experience and with mutual action and reaction. In this case the notions employed by way of explanation, cause, action, force, are those applicable to express the relations of phenomena within experience, and we may expect to find difficulties and contradictions when they are employed to explain experience itself. Or we may, in the second place, examine whether on the Realist assumption any explanation whatever could be given of the distinct factors, subject and object, involved in conscious experience. In both cases we apply a method of criticism familiar to all students of the Kantian and post-Kantian philosophy; we make manifest the incompleteness of a principle by exhibiting the contradictions to which it infallibly leads. (*Cf.* pp. 300, 340, 378.) The contradictions, so far as Realism is concerned, arise from taking as ground of general explanation that which has only partial validity. The two inquiries just referred to correspond fairly to the matter of Mr. Herbert's first and second chapters respectively.

Just as the fundamental idea of Realism, that of correlating Mind and Body and treating them as substances acting and reacting under the general laws of activity, corresponds to the pre-critical mode of contemplating the problem, so the most surprising similarity is to be found between the various pre-critical explanations of the relation between Soul and Body and those put forward by modern science. The parallelism between the theories successively evolved in the Cartesian philosophy and the modern views classified in Mr. Herbert's first chapter, though not adverted to by the author himself, is so exact as to call for special notice. In Descartes himself we find the clear opposition between the self-conscious ego and a physical nature which is mechanically complete, just as in modern science psychical states are viewed as somehow coexisting with a physical universe complete and constant in its mechanical energy. Descartes' confused and contradictory assertion of a power in mind, not to affect the quantum of motion in the universe (which is fixed), but to alter the direction of motion, is exactly paralleled by Dr. Carpenter's view of volition governing the distribution of energy as a rider governs his horse. The same criticism is applicable to both. If physical and psychical be distinct entities, any causal relation between them must violate the scientific principle of continuity in the physical universe. (*Cf.* pp. 28-32, 35-7, 43, 57-8.) In Cartesianism the pressure of this difficulty led to the more definite formulation of the theory of Occasional Causes, according to which, as Prof. Clifford puts it, 'the physical facts go along by themselves and the mental facts go along by themselves'. We become, as Geulinex said, 'mere spectators in the uni-

verse'. 'Quemadmodum non operamur in id quod extra est, ita quod extra est non operatur in nos.' Consciousness is thus an accidental concomitant of physical processes ; it is, indeed, a superfluous addition to the 'sum of existence'. That logical consistency leads to the further step of postulating some kind of pre-established harmony between psychical and physical is historically known and is well brought out by Mr. Herbert (pp. 59-66). Any such harmony, however, with the doubtful exception of the Leibnitzian, requires the employment of the conception of action, and entails all the perplexities incident to that notion. Even the finest form of Occasionalism, that of Lotze, in which mental states are regarded as the specific modes of the reaction of the soul or immaterial monad in conformity to certain signals or signs, leaves absolutely unexplained the nature of the connexion between the soul and the physical change which affects it as a signal. Wherever we find postulated an absolute distinction between mechanism and conscious experience, or between the forms of our experience and reality, the same insuperable difficulties arise.

There remained for the pre-critical philosophy as for modern scientific explanation only the view that ultimately soul and body, psychical and mental, are one ; both are modes, or, in more recent phraseology, manifestations, appearances, faces, of the one, unique reality. Sometimes this theory is taken to mean that the two facts are phenomenally distinct, but united in the unknown substratum, in which case manifestly the whole difficulty is shelved (pp. 87-8). Or it may mean that in truth each part of experience is twofold, subjective and objective. How impossible it is to carry through this conception we know historically in the case of Spinoza. How certainly we are led to regard some of the facts of experience as one-sided, others only as two-sided, is well brought out in Mr. Herbert's quotations from Prof. Bain and Mr. Spencer (pp. 66-72). "In fact, Mr. Hodgson, Mr. Herbert Spencer, and all who hold this theory, do not, cannot allow to the united process they describe, all the varied and incompatible qualities of its two aspects. They speak of the connexion as if it were a union on equal terms, but when they apply the theory, it turns out to be far from that. We are told that nerve-changes have mental aspects, but everything is effected solely by their physical characters ; the mental aspect does not influence events. We are never told that, though our feelings have physical aspects, our actions are governed by laws of mind ; though if the union in question were an equal one, the latter statement would be as fair as the former and philosophically it is more accurate. . . . The united process is such that the mental aspect is, for all purposes of action, wholly subordinate to the physical" (p. 197).

The result, then, with which this section of Mr. Herbert's work concludes is that the Realist view, by the contradictions to which it leads, manifests its incompleteness as an explanation of experience. So far as phenomena are concerned, we are and must be realist, but when the sephenomena are thought to exist as things-in-themselves, giving rise to experience, then we are involved in contradictions. The

facts of mental experience to which physical occurrences are supposed to give rise are themselves the physical phenomena. If we resolutely restrict our attention to phenomena viewed as external, and deal with them as substances or things acting and reacting, then at no point in our investigation do we come upon any mental fact; nor is it necessary we should do so (p. 146). It is only if we treat these external phenomena as *causes* of our experience, that we find the absolute impossibility of reconciling external fact and inner states.

In his second chapter, Mr. Herbert deals with what is truly the fundamental perplexity of the Realist view. The mode in which our experience of external facts is thought to originate, by action of things upon the organs of sense, at once demonstrates that of these external facts, so conceived, we can have no knowledge. "If it (*sc.* the material world) exists as we perceive it, it follows that we cannot perceive it." (p. 163.) Several sections (pp. 149-184) are devoted to consideration of the various ways in which the process of perception has been explained, and with perhaps more elaboration than is necessary it is shown that the conception of a mechanical relation between external things, the organism and mind, lands us in hopeless contradiction. Pushing his argument further, Mr. Herbert points out that in the scientific (realistic) conception of the world no place can be found for any exercise of intelligence, human or divine, that the reasoned connexion of facts in our mental life is not to be accounted for by reference to any of the mechanical relations of nervous energy which are supposed to underlie these facts, that certain fundamental features of our intellectual life (memory, identity of self) are inexplicable if we regard such life as the result of material action and reaction, and finally that the Realist interpretations of space, time, and motion lead to antinomy.

At various points throughout this chapter, Mr. Herbert uses forms of expression only compatible with the individual or empirical idealism of Berkeley. In particular, he refers to our representation of space-quanta as not being themselves extended, to our conception of time as not corresponding to real time, and to the objective character of certain feelings as an inference from something known of Self. This method of distinguishing between conception and fact is valid as against Realism, but leads to some confusion in the author's argument. When we say that our perceptions of extended facts are extended, there is no contradiction unless we introduce surreptitiously the very separation Mr. Herbert so justly rejects, between our experience and that which we experience. Whoever pronounces dogmatically, as even Lotze, with all his caution, invariably does, that our representation of space has nothing spatial in it, that our representation of movement does not in the least resemble movement, implicitly asserts the existence of an unknown and unknowable space and movement, which in some occult fashion are so far known as to admit of being compared with our experience of them. The apparently absurd conclusions to which Czolbe and Ueberweg were led by a quite similar train of thought regarding perceptions of space, depended on their view of

space as something in itself, apart from and to be distinguished from experience.

With the expository portions of Mr. Herbert's work we find ourselves less in harmony than with his criticism. When he comes to explain more formally the conception of Idealism on which his previous remarks have been founded, it is apparent that he wavers between the empirical or individualist doctrine of Berkeley, and the critical or transcendental theory of Kant. He speaks of knowledge as being limited to "phenomena of consciousness and inferences" to be drawn from them (p. 353). These inferences, which transcend phenomena and without which, as Mr. Herbert puts it, rational continuity of mental life is impossible, or, as we should prefer to put it, cognition of phenomena is impossible, are described as irresistible suggestions, and among them are included the permanence of self and the externality of the perceived world. It is not easy to discover what Mr. Herbert understands by this externality of the perceived world. He appears to claim, like Berkeley, an original, primitive demand of intelligence for efficient causation, then asserts that phenomena are *effects* not explicable by other phenomena, and forthwith proceeds to draw the "irresistible conclusion" of an external power. The idea of this power must be associated with certain phenomena, otherwise they could not be recognised as *external*. (*Cf.* pp. 348, 369-70, 431, 448.) A closer analysis would show that this method of proof is neither requisite nor adequate. How the externality of the perceived world, which must be for Mr. Herbert the arrangement of certain states in space, is connected with the suggested "power," nowhere becomes evident. Equally unsatisfactory is the account given of the "suggested" permanence of self. Mr. Herbert is still entangled in the difficulty that the Ego does not present itself as a phenomenon among other facts of experience. On this ground he appears to think that permanence of the Ego is an inference, that this inference is phenomenal, and, consequently, in order to transcend phenomena, recourse must be had to belief or intuitive conviction. (*Cf.* pp. 371, 372-3, 380, 402.) The only fact which, he appears to say, can be regarded as demonstrable, is the existence of present feeling. He would find it hard to show that such existence is under any circumstances demonstrable, or even cognisable apart from thought, which alone truly transcends phenomena. But the word 'phenomenon' seems to have exercised its usual fascination.

On the special matters contained in this third chapter, such as the criticism of negative theology, we have left ourselves no space to comment. It may be permitted, in concluding, to say that Mr. Herbert's work appears to us one of real ability and importance. The author has shown himself well trained in philosophical literature, and possessed of high critical and speculative powers. The rare merit of the solitary work which he has been spared to complete, deepens our regret for the untimely death of one who gave every promise of making valuable contributions to British philosophy.

ROBERT ADAMSON.

A Defence of Philosophic Doubt, being an Essay on the Foundations of Belief. By ARTHUR JAMES BALFOUR, M.A., M.P. London : Macmillan, 1879. Pp. 355.

Mr. Balfour's book contains a criticism of modern philosophy from a sceptical point of view. It should, however, be understood that his scepticism is not of that ingenious and suicidal kind which necessarily ends in self-destruction. He has not set himself to maintain the paradox that Reason judged by itself is irrational, nor even to prove that there cannot be a Philosophy which will satisfy all our fair demands. He merely asserts that the philosophies most popular at the present time are thoroughly unsatisfactory. Now this is no paradox, and the unphilosophical might even think it a commonplace. But the unphilosophical will hardly be satisfied with Mr. Balfour's argument however much they may be pleased with his conclusions. Nor indeed can his conclusions be pleaded in favour of nescience and laziness, for, as already said, he seeks not to demonstrate the impossibility of Philosophy, but merely to show that we have small reason for being satisfied with the theories which pass current amongst us.

It seems to me that a book which should sum up the case against Modern Philosophy was much wanted and that Mr. Balfour has well supplied the want. In the first place he has a very clear idea of what he requires of a sound philosophy. With this before him he has examined various theories. Keeping his object in sight he refuses to be led away by what he thinks false issues and insists on extorting an answer to just those questions which he holds of supreme philosophic importance. The scope of his book should be had in mind if we are inclined to condemn him for not dealing with the whole of those systems which he pronounces unsatisfactory. A disciple of Kant, for instance, may think his treatment of Transcendentalism shallow and one-sided. But Mr. Balfour has only two or three questions to put to Kant, and the only real issues are whether these questions are of first-rate importance and whether Kant has answered them. Whatever may be thought of the substance of his argument, there can scarcely be two opinions as to its style. It is clear, forcible, and concise. The reasoning may be aimed at a wrong mark, but there can be no doubt as to what is the mark at which it is aimed.

This book will probably hereafter be often mentioned in this journal, for it seriously concerns our philosophers that its author should not be left in possession of his chosen field. The present notice attempts nothing more than to give a brief and meagre outline of the course which he pursues.

Of our beliefs some rest on inference ; we can give reasons for them. But unless we are committed to an infinite regress, this cannot be the case with all our beliefs. Some of them must be logically ultimate. Mr. Balfour more than once and very rightly insists on the distinction between logical ultimateness and psychological primitiveness. His

inquiry is not psychological. With the *causes* of belief he has nothing to do. The *grounds* or *reasons* of belief are his subject. Philosophy is bound to give an account, if possible a classification, of our ultimate beliefs, those which are our reasons in the last resort. In search of such an account he examines various theories.

But there are two beliefs with which he is specially concerned, our belief in the uniformity of nature, and our belief in a permanent world external to and independent of consciousness, or at least *our* consciousness. The first is admittedly of vast importance to science, and according to Mr. Balfour the second is so too. This he argues against Mill. Idealism, that is, individualistic Idealism, can make nothing of Science. The idealist cannot translate into the terms of his theory the assertions which Science makes about a world which existed unperceived and unperceiving for ages before the first perceiving organism was evolved. Here Mr. Balfour is able to call Mr. Spencer as a witness in his favour.

In his examination of various systems he keeps these objects steadily in view :—Philosophy must give us a coherent account of our ultimate beliefs ; Philosophy, if it is to justify Science, must assure us of the uniformity of nature and the existence of a world apart from our consciousness. He first attacks Mill's treatment of the uniformity of nature, and argues that the reasoning is circular, the question begged. The uniformity of nature is already assumed in the distinction between the power of the Method of Agreement to prove this supreme law, and its impotence to prove any other law. But this is not all, for neither Mill nor those more cautious inductive logicians who avoid the difficulty by treating the uniformity of nature as an ultimate belief, can tell us what they mean by *uniformity*. When they strive to be precise they give us the sterile assertion that the same total sum of antecedents will always be followed by the same total sum of consequents. If they attempt more they afford us but some vague rules for the conduct of scientific inquiries and in the end leave us to our practical good sense. It will be noticed that Mr. Balfour does not merely treat the statement of natural uniformity as unproved ; this would be little, for some beliefs must be unproved ; he argues that it is never thrown into any accurate form except at the expense of making it unmeaning. It is to be hoped that some who have the uniformity of nature for ever on their lips will be able to prove that this reproach is unfounded.

Mr. Balfour's chapter on Transcendentalism has already appeared in these pages (No. XII.), with a reply to it by Professor Caird (No. XIII.). Readers of MIND have therefore the materials necessary for a judgment on the merits of the case. But Mr. Balfour's position will be better understood when this chapter is read as a part of his book. Kant, it is said, has saved for us the law of causation and the existence of a world such as Science requires. Is this so ? No, says our author, we cannot find that the trustworthiness of these scientific beliefs is involved in our perception of objects and events succeeding each other in time. Besides Kant does not any more than Mill state

in precise terms that law of causation which is required by the man of science.

From Kant we descend to popular philosophy with its arguments from general consent, success in practice and "common sense". Thence we pass to Hamilton's version of "the testimony of consciousness," and Mr. Spencer's Universal Postulate. In each case the object sought for is the same, an ultimate belief which is clear and precise. Popular philosophy, as may be imagined, is unsatisfactory to Mr. Balfour, and he points out its tendency to assert that a belief is ultimate and then to give reasons for it, a tendency to which Hamilton was subject. His argument against Mr. Spencer is hardly so convincing as the rest of his book. In Mr. Spencer he finds a philosopher who chooses his ultimate belief and is consistent in his choice, and who has thus placed himself beyond the reach of Mr. Balfour's most effective weapon, namely, the proof that his opponent argues in a circle. He is more successful in criticising Mr. Spencer's Transfigured Realism. He agrees with his adversary that the world must be saved if Evolution is to be other than a dream, but he does not think that his adversary has saved it.

Then follow some interesting and ingenious chapters tending to show the discrepancies between Science and Common Sense. The world as conceived by Science, argues Mr. Balfour, is not the world as perceived by us. The causes of our perception of colour as conceived by Science are not these coloured objects which we perceive. How comes it that Science conflicts with perception? What warrant has Science other than those very appearances which it contradicts? So again with theories as to the origin of beliefs; these also tend to overturn the support on which they rest. The belief in Evolution is evolved like any other belief; it may like any other belief have been produced by causes which are not reasons; by showing how beliefs may be produced by such causes it throws doubt upon its own validity.

Thus weighing various theories against those requirements with which he started, Mr. Balfour brings us to his practical results. And his chief practical conclusion is, that no satisfactory justification of scientific assumptions and scientific procedure is to be found in our fashionable philosophies.

It is perhaps to be regretted that in his last chapter our author thinks it well to speak of the conflict between Science and Theology. It is not to be regretted that he should protest against the overbearing dogmatism of certain assailants of Theology, and this gives him an opportunity for an amusing parody of the lectures on their irrationality which are constantly addressed to theologians. But Mr. Balfour by setting Science and Theology over against each other as the two opposing systems which divide the allegiance of mankind is led, as it seems to me, to underrate the destructive force of his previous argument. He suggests that though Science and Theology may be each indefensible as a whole, each may be reasonable in its "internal structure," that is, I take it, that granted certain assumptions we may have

a reasonable Science and a reasonable Theology, though the two cannot stand together. But has Mr. Balfour left us the power to make the necessary assumptions? He has shown that Science (and it will hardly be said that Theology is in better plight) is not only compelled to take certain beliefs as ultimate and unproved, but is at present compelled to adopt beliefs which elude all attempts to express them with precision. Such at any rate is the case with the belief in universal causation. When therefore he tells us that Science and Theology are bound to make themselves internally reasonable, by *reasonable* he can hardly mean more than *consistent*. How, unless he has some undisclosed system in the background, he would proceed to make his Science or his Theology reasonable, I cannot guess. He has apparently left us with no guide to truth save deductive logic and certain "impulses". But deductive logic will avail us little in a choice between Polytheism and Monotheism, or even in a choice between Protestantism and Catholicism. It seems to me that his "Practical Results" are on his own premisses premature, and the hope that he holds out of a Science rational in itself and a Theology rational in itself delusive. Had he fully appreciated the havoc which his criticism must make within each department of human knowledge, he might have come to a conclusion less satisfactory to the unphilosophical but more valuable as a foundation for a new construction. For instance, he might have been led to doubt whether we are right in trusting to inconsistency as a conclusive test of falsehood. If we cannot arrange our scientific beliefs in a logical order, and determine which are ultimate, which inferred, this may be due to no fault in our science but to our insisting that science should conform to a model which is itself unreasonable.

But few of his readers will condemn Mr. Balfour for not having doubted sufficiently, and there is much to be considered in his previous argument before we need think of his "Practical Results". To me it seems that his criticism, whether valid or no, is legitimate and salutary. There is a constant danger that discussions which begin by being *philosophical* (in Mr. Balfour's sense of the word) should end by being psychological, and against this tendency Mr. Balfour strives successfully. An investigation of the reasons for belief is quite a different matter from an investigation of the causes of belief and may be of much greater importance. Considering the common confusion of these two matters, Mr. Balfour will have done an important service to Philosophy if he succeeds in forcing on others his own clear distinction. Perhaps he will make but few converts to his own peculiar form of scepticism, but the disciple of Mill will see the force of his argument against the Transcendentalists, the Transcendentalist will praise his attack on Mr. Spencer, and all will admit that he is entitled to a respectful hearing. Such a hearing he will doubtless obtain from many readers of MIND.

F. W. MAITLAND.

Principles of the Algebra of Logic, with Examples. By ALEXANDER MACFARLANE, M.A., D.Sc. (Edin.), F.R.S.E. Edinburgh : Douglas, 1879.

All who have any taste for the study of Symbolic Logic will be interested in reading Mr. Macfarlane's very thoughtful and suggestive essay. It is avowedly written on the lines of Boole, though he differs freely on various points, more or less of detail, from that great originator of the subject. Some of them are points in which it seems to me that he has rather narrowed Boole's view—I mean that he has criticised him on the supposition of his view being less sound and general than I should regard it as being; though in the case of such a writer difference of interpretation is almost inevitable. For instance he regards the compound class term xyz as necessarily implying that it must be interpreted along the predicamental line, that is, that we must take x, y, z , respectively in order, selecting first the things in general that are x , then from this selection those that are y , and so on. For myself, I have never understood Boole to mean more than that this is an easy explanatory mode of getting at such a compound symbol. But xyz itself I regard as being simply the class which happens to possess those three attributes, however we may have arrived at them. Again, in discussing the meaning of the 'Universe' to which our reference and discourse are limited in any particular case, he supposes Boole to have intended "a definite part of the whole realm of things—a limited portion of the physical universe, with all the entities which are or can be imagined to be in it, whether mental or physical," &c. That we may so interpret our universe if we please is quite certain, but I have never seen anything in Boole to hinder us from taking the much more reasonable interpretation which would merely restrict the universe to any order of things or phenomena of which we might wish to take account. If that universe is 'men,' say the men in a given room, then 'not-men' will not stand for the indefinitely numerous entities of other kinds which logic may consent to take account of, but will be = 0. This is the view which I understand Mr. Macfarlane himself to take.

There are other points on which I should agree with his criticism, for instance, in reference to that rather perplexing distinction between primary and secondary propositions, which plays so large an apparent part in Boole's system, but of which the practical importance so soon dwindles down, owing to his admission that the symbolic laws which govern them are identical, and that any primary proposition can always be expressed as a secondary. This distinction, with its rather far-fetched application that the latter kind of proposition is best regarded as having its interpretation in time and the former in space, I understand Mr. Macfarlane to reject, in which rejection I should quite concur.

The general aspect of the volume will, I fear, be rather deterrent to the bulk of logicians, for to a hasty glance it appears to be even more of a mathematical treatise than that of Boole, by which I mean that there are even fewer pages in it of type unbroken by the intrusion of

x and y , of + and −, &c. But those who read it will find many remarks which will be suggestive to the ordinary logician, as well as to those who wish to follow up the intricacies of the symbolic development. For instance, in reference to the conversion and contraposition of propositions, he points out that, owing to the neglect of taking into account the 'universe' of discourse, many writers have failed to give a perfectly accurate account of the process. They will regard the proposition, 'Every regular figure may be inscribed in a circle,' as convertible into 'Every figure which cannot be inscribed in a circle is not regular'. Whereas they thus leave 'figure,' the subject of thought, unchanged, manipulating only the characters 'regular' and 'inscribable in a circle'.

Those who have exercised themselves with these symbolic methods will know that the due representation of particular propositions is a decided vexation and trouble, and I could wish that Mr. Macfarlane had entered more fully into the discussion of them. Few will be satisfied with Boole's $vx = vy$, or Prof. Jevons's equivalent form $AB = AC$, to express the particular affirmative. It seems to me that Mr. Macfarlane is on a decidedly better track in adopting the form $xy = v$. This form is simpler and more symmetrical, especially when we have to take account of more than two terms. But I think there must be an oversight in his distinction (on p. 71) between $xy = v$ being a particular affirmative, and $xy = 1 - v$ a particular negative; for v being simply a class between 1 and 0, there is no logical distinction between v and $1 - v$. I would prefer to write them $xy = v$ and $x(1 - y) = v$, these asserting respectively that there are x 's which are y , and that there are x 's which are not y . I offer this as a hint merely at present; the subject is too intricate to pursue at length in a brief notice like this.

The principal feature of originality in the volume seems to me to lie in the numerical treatment of logical questions. Something of course had been done here by De Morgan, but I do not know that it has been systematically treated elsewhere. The reader unacquainted with these questions will best comprehend their nature by the statement of a simple problem. "Suppose that of the persons on board a ship which was wrecked, the passengers formed two-thirds; and those that were saved in the wreck three-fourths. How many passengers must have been saved, how many lost; how many of the crew must have been saved, how many lost?" (P. 76.) Of course this could be worked out without the necessity of appealing to a special logical calculus, as, for that matter, there are doubtless ready-reckoners who could answer it off-hand without conscious appeal to arithmetical rules. But readers of a speculative journal will hardly need to have a formal defence offered for the reduction to rule and principle of processes which in simple cases can be carried on by the untrained faculties of ordinary intelligent persons.

Mr. Macfarlane takes as the types of the Categorical and Hypothetical propositions respectively, $x = m$, and $xy = m$. This is one step towards abolishing the latter, and I cannot but think that it

would be better to take the slight remaining step. Not of course that propositions with a hypothesis in them should be rejected, but that the hypothetical element itself may be neglected as extralogical. The subject is too large for discussion in a side-reference, but, in the fewest words, it seems to me that the reason why the two types that Mr. Macfarlane has taken will answer the purpose as well as they do, is this:—When I say ‘*x* is *m*’ the existence of *x* and *m*, though not asserted, is strongly implied, so that the hypothetical element in their existence is not obtruded on our notice. But when I combine two distinct class terms, *x* and *y*, which have no connexion perhaps with one another, into the proposition ‘*xy* is *m*’ the question at once arises, ‘But is there any *xy*?’. This element of uncertainty we take into account by using some such terms as ‘*x* if it is *y*, ‘*x* when *y*, &c. But, at bottom, it seems to me that that element is invariably present in all propositions, and need not therefore be specially taken account of in any.

There is a good selection of Examples at the end of the volume, very well calculated to show the scope and power of these symbolic methods. Those who have to teach or study the subject will be glad of these, as well selected examples are not to be found easy at hand.

J. VENN.

La Morale d' Epicure et ses Rapports avec les Doctrines contemporaines. Par M. GUYAU. Paris: Germer Bailliére, 1878.

M. Guyau's work is an enlarged edition of the first part of an essay on “*La Morale Utilitaire*,” to which a prize was awarded in 1874 by the Académie des Sciences Morales et Politiques. His view of Epicureanism is not, in the main, quite so novel as the reporter of the Académie seems to have supposed; but his book may be cordially recommended to students of ancient philosophy as containing not only the most ample and appreciative, but also—in spite of some errors and exaggerations—the most careful and penetrating, account of the ethical system of Epicurus.

Such a book is all the more welcome, because the treatment of Epicureanism in the most widely accepted history of Greek philosophy—Zeller's—constitutes one of the least satisfactory parts of that valuable work. Here, as elsewhere, Zeller is uniformly impartial in intention and trustworthy in details; but his want of sympathy with the general view of Epicurus has prevented him from apprehending the real significance and inner coherence of some of the Epicurean doctrines, and in other cases has led him involuntarily to depreciate their originality and importance. Thus he fails to make his reader understand the ardour of enthusiasm which Epicureanism excited in minds like Lucretius, and its prolonged and inflexible vitality—all the more remarkable as contrasting with the brief and unstable existence of the earlier and more naïve hedonism of the Cyrenaics. The fact is that Zeller with other historians has missed the right point of view

for tracing the process of Greek philosophic thought after the turn given to it by Socrates. Their attention is always primarily directed to the development of speculative philosophy ; ethics is always dragged in the wake of metaphysics ; whereas the post-Socratic philosophy itself was throughout in its first intention practical, a pursuit of wisdom for the sake of life. It is very natural for students of Plato and Aristotle to forget this ; indeed my assertion may easily seem paradoxical, when we contemplate the absorbing profundities of Plato's metaphysical research, and the small place that the theory of practice occupies in the vast range of Aristotle's thought. Still the paradox is merely apparent. Plato never ceased to hold that the only true and reasoned answer to the fundamental question of practice had to be supplied by ontology ; and though in Aristotle's view speculative philosophy did not, in one sense, give the answer to this question, being concerned with higher things, yet in another sense it did : it was not the theory of the true end of human existence, but it was the end itself. Hence we ought not to regard the preponderance of the practical interest in the post-Aristotelian school as a mere indication of the decay of genuine philosophy—which seems to be Zeller's view—but rather as a return, after a splendid digression, and reconcentration of philosophic thought on what, since Socrates, had always been regarded as its main problem.

From this point of view the peculiar historical importance of Epicureanism is easily seen. Greek ethics, as more than one writer has noticed, was throughout egoistic in form, at least so far as the statement of its fundamental question is concerned ; but Epicureanism alone among the great rival systems supplied a content obviously and completely adapted to this form. When Socrates started the search for The Good, he meant primarily "good for himself" or for any other individual philosophic soul inquiring after the true way of life ; but, from his original and epoch-making conception of the nature of knowledge, he inevitably failed to distinguish this inquiry from the investigation of abstract or absolute good : hence his search led naturally to that blending of ethics, physics, logic and theology in one dream of a supreme universal science, which we call Platonic Idealism. Again, though Aristotle's analysis definitely distinguished the end of ethical investigation as the individual's wellbeing, his conception of this end was powerfully influenced by the organic or teleological view of the physical universe which he inherited and developed ; while in determining the particulars of practical good his ultimate appeal is not really to the individual's experience, but to the common moral consciousness of the society of which he is a member. In Epicureanism we have for the first time ethical egoism purged of all alien elements, and supported by a physical doctrine purged of all teleology.

I have referred briefly to these historical generalities because, while agreeing with M. Guyau as to the degree of importance to be attached to Epicureanism, I am by no means able to accept his view of its historical relations. Indeed I am bound to say that many of his references to other philosophic systems seem to me characterised by a

superficiality very strange in a writer so careful and penetrating. For instance, his first chapter opens with the following historical sketch :—

"On le sait, les peuples qui commencent à philosopher font presque toujours de la spéulation pure ; ils pensent, ils cherchent pour penser et pour chercher ; plus tard seulement, quand les philosophes s'aperçoivent qu'ils ont cherché pendant fort longtemps pour trouver fort peu et qu'ils sont en désaccord les uns avec les autres, ils finissent par s'inquiéter, ils craignent d'avoir perdu leur peine : les sceptiques, les Pyrrhon, en voyant leur impuissance et leurs contradictions rient et riaillent, mais les utilitaires, plus sérieux, au lieu de condamner l'esprit humain, condamnent la spéulation, ramènent la pensée vers le *moi*, prétendent qu'avant de poursuivre la vérité absolue, il faut chercher la vérité relative et l'utilité, et qui plus est la trouver. Ainsi fit Epicure en Grèce ; on peut considérer son système comme une tentative pour arracher l'esprit humain aux écarts des Héraclite, des Platon et des Aristote, en un mot pour régler la pensée humaine sur l'utilité."

An account of the transition from pure speculation to the study of "le moi" and "l'utilité," in which the very name of Socrates is left out, is certainly more original than satisfactory ! Nor is it easy to understand how any one who has read Aristotle's *Ethics* can go on to inform his readers that "Platon et Aristote cherchaient le vrai pour en déduire le bien". On Stoicism M. Guyau—who has published a translation of Epictetus and an *Étude sur la philosophie d'Epictète*—is naturally better informed. Still, he hardly ought to assert, on the strength of a single passage of Epictetus and against a *consensus* of other authorities, that "les Stoiciens conseillaient à leur sage d'éviter le mariage". Again, it is misleading to say that the Epicurean doctrine of political abstention was shared by a majority of Stoics, without also explaining that the Stoics always maintained as a theoretical principle that the sage should take part in public affairs unless there were good reasons to the contrary. Withdrawal from political activity was a part of the Epicurean ideal of life, while it was forced on the Stoic by the discrepancy between the ideal and the actual conditions of political existence : the difference in theory is of fundamental importance.

On the other hand, so far as M. Guyau treats of matter that he has especially studied, he is almost uniformly instructive as well as trustworthy. For instance, his comparison between the hedonism of Aristippus that pursued the pleasure of the moment, and the "utilitarianism" of Epicurus, whose end was the happiness of a life, is thoroughly careful and well-informed. I think, however, that in this comparison he, to some extent, confounds two distinct issues; one really practical, while the other is merely metaphysical, or, if I may coin a word—*metapractical*. When the Cyrenaics, as Diogenes Laertius tells us, maintained that the *τέλος* was not *εὐδαιμονία* but *ἡ κατὰ μέρος γῆδονή*, they did not necessarily adopt the paradoxical position of denying that future pleasure, so far as it is capable of being foreseen, is to be regarded as much as present pleasure : indeed, as Diogenes goes on to say, they allowed that *εἰδημονία* was *αἰρετή*, though not *per se* but as a means to the particular pleasures. That is, they admitted it to be practically reasonable for a man to aim at making the sum of his

future pleasures a maximum : they only laid stress on the fact that the hedonistic end is not capable of being actually realised except in successive parts. At the same time the scepticism of the Cyrenaics would naturally lead to an exaggeration of the uncertainty of the future, and to a practical adoption of the principle "carpe diem": and in fact Athenaeus and Ælian attribute this principle in its extremest form to Aristippus, and all that we are told of his life is in harmony with their statement.¹ While, on the other side, it is in direct contradiction of Epicurus's express statements to say that his "fin" is "le bonheur, non le plaisir" (p. 130): indeed, the success of Epicureanism may be attributed to the fact that it started with frankly accepting the vulgarest pleasure-seeking as reasonable and right, though it ended by constructing an ideal life as remote from the voluntary's practice as Stoicism itself was—a life, as Jerome exclaims with admiring surprise, "full of herbs and fruits and abstinences".

M. Guyau traces clearly and skilfully the process by which the stable and perfect edifice of philosophic happiness is raised by Epicurus on the apparently shifting and unstable basis of sensual gratification; and in so doing corrects more than one wide-spread error. He lays stress on the positive quality of the *καταστηματικὴ ἡδονὴ* which Epicurus contrasted with that *ἐν κυρήσει* and maintained to reach the highest degree of which pleasure admits: this being not mere painlessness, but the stable satisfaction derived from the mere sense of normal life, unruffled by pain or anxiety. In connexion with this he ingeniously and perhaps rightly interprets the well-known utterance that "the pleasure of the belly is source and root of all good," not as exalting the pleasures of the table, but as emphasising the importance of satisfying the bodily needs of nutrition. At the same time M. Guyau goes too far in calling this *καταστηματικὴ ἡδονὴ* "le seul vrai plaisir" and speaking of the "plaisirs inférieurs du mouvement" as being "rejected" by Epicurus. It is not easy to make Epicurus's utterances on this point perfectly consistent; but I think he must be understood not to "reject" the *ἐν κυρήσει ἡδοναῖ*, nor even to treat them as inferior; rather, he would co-ordinate and as far as possible combine them under one notion with the stable satisfaction that lies in the feeling of settled and serene existence.

No feature of Epicureanism is more striking than its triumphant announcement of the perfect attainability of its ideal. The Epicurean sage, no less than the Stoic, enjoys a happiness that could not be increased by the prolongation of life and that can be maintained even amid the torments of the rack; and like the Stoic he owes this to

¹ I may observe that Zeller is not perfectly consistent in his language on this rather subtle point. In his account of the Cyrenaic doctrine he says:—"Auch das aber scheint ihnen bedenklich, wenn man . . . die Aufgabe des Menschen darein setzt, sich die höchste *Gesammtsumme* von Genüssen zu verschaffen": while afterwards in the chapter on Epicurus he observes with more accuracy that they "die Glückseligkeit nicht in dem Gesamtzustand des Menschen, sondern in der *Summe* der einzelnen Genüsse suchten."

philosophy and to the intrinsic superiority of the mind to the body. M. Guyau puts this point effectively : but he modernises it rather misleadingly when he says, " L'esprit qui n'était d'abord qu'un moyen pour le corps reprend son rôle de fin véritable, et cela grâce à une idée qui fait le fond de l'esprit humain, l'idée d'infini. Les peines et les plaisirs de l'esprit ont quelque chose d'infini et éternel."¹ For the Greek mind, from first to last, found perfection in the finite rather than the infinite : and accordingly the cup of happiness is filled to the brim for the Epicurean sage by a consciousness not of the unlimitedness of mental satisfaction, but of its completeness within the appointed limits of life ; he is said to live *ἐν ἀθανάτοις ἀγαθοῖς*, but that is merely a way of saying that " death does not concern him".

In an original and interesting chapter on "Contingency and Liberty," M. Guyau defends vigorously the well-known "clinamen" or spontaneous deviation from the perpendicular, attributed by Epicurus to his atoms ; on which most historians of philosophy have poured unmitigated contempt. He argues forcibly that this assumption is necessary to reconcile the Free Will which Epicurus regarded as at once a datum of experience and a necessary postulate of his ethical optimism, with that complete mechanical explanation of nature by which he claimed to annihilate superstition and secure the mental tranquillity of his disciples. If man's actions are not completely determined, there must be spontaneity in the elements out of which he is composed ; otherwise the chain of natural causation is broken and the miraculous let in. M. Guyau shows the mistake of supposing that Epicurus attributed this spontaneity to his atoms only in the origination of worlds, afterwards suspending its exercise : and he plausibly suggests, on the strength chiefly of a passage of Plutarch (*De Solent. Anim. 7*), that the *τύχη* which Epicurus admitted as a third cause, side by side with mechanical necessity and human free will, was merely the form in which this essential spontaneity reveals itself to us.

The Epicurean view of death is also well and carefully presented : but M. Guyau seems to have trusted too completely the gloomy description given by Epicurus and his school of the "prava religio" from which they claimed to deliver mankind. The following sentences, for instance, cannot be applied without great qualifications to any period of ancient history later than the seventh century B.C. :—

" Dans les religions antiques, au contraire, l'espérance du ciel n'existant pas ; seuls, quelques héros comme Hercule ou Bacchus avaient merité de prendre place là-haut parmi les dieux ; tous les autres hommes, pèle-mêle, ensevelis sous la terre, y demeuraient à jamais loin du jour, et si parmi eux il y en avait de plus châtiés, de plus malheureux les uns que les autres, il n'y en avaient vraiment point de *fortunés*."

This certainly expresses, so far as we know, the idea of a future life generally entertained by the contemporaries of Homer and Hesiod. But

¹ In the same way there is an awkward and distorting Teutonism not only in the phrase but in the thought of Zeller, when he speaks of "die Unendlichkeit der auf sich selbst beschränkten Subjektivität" as the fundamental assumption of Epicureanism.

so soon as we come to Pindar we find a distinct expectation of a posthumous fate corresponding to earthly merit as well as demerit—compare, among other passages, the second *Olympiad*, and the fragment commencing $\Psi\nu\chiai\ \delta'\ \dot{\alpha}\sigma\epsilon\beta\omega\nu$. Then, for Plato's age, we have distinct evidence of a similar hopefulness in the language placed in the mouth of the aged Cephalus at the outset of the *Republic*;¹ and in several of the mortuary inscriptions that have come down to us from later times the survivors assume that the departed are in bliss among the stars or in the air. How widely spread this brighter tone of sentiment was we cannot now determine; but at any rate we are bound to recognise its existence.

In the chapters which deal with the social aspects of Epicureanism M. Guyau is especially concerned to point out the various and striking anticipations of modern thought which the system presents. He notices the difficulty which the Epicureans found in providing a rational basis for the Friendship which they exalted as so essential an element of happy life: a difficulty signalised by the fact that on this point only have we any evidence of a distinct advance made by disciples of Epicurus beyond the position taken up by their master. The result of this advance is exhibited in the earliest form of that "associationism" by which English utilitarians have met the similar difficulty of explaining disinterested benevolence. In the same way Epicureanism presents the first definite and constructive statement of the modern utilitarian view of Justice, as essentially dependent on a social convention for the promotion of common interest by the prevention of mutual injury; so that, while the general conception of justice is everywhere the same, its particulars naturally vary with the varying circumstances of different communities. Again we have a germinal form of the modern view of human progress in the pictures of the origin of civilisation given by Lucretius—to the originality and importance of which Zeller does rather imperfect justice by speaking of them as "im ganzen sehr gesunde Ansichten". M. Guyau, on the other hand, in this part of his work, has not altogether resisted the temptation to modernise unduly his interpretation of ancient texts, and to underrate the characteristic differences of the modern systems with which he compares them. The criticisms, however, with which his exposition is interspersed are nearly always sensible and just.

About one-third of the book consists of shorter studies of modern successors of Epicurus; the writers most fully treated being Hobbes, Rocheſoucauld, Spinoza, and Helvetius. These form rather a strange quartette: and in truth the point of view taken is unfavourable to an adequate treatment of Spinoza: nor do I think that sufficient attention is given to the characteristics that distinguish Hobbism—as an original and powerful essay in constructive politics—from the older egoism to which it may no doubt be affiliated. On the other hand, the account of Helvetius is very interesting and instructive.

H. SIDGWICK.

¹ Cf. *Rep.* p. 331. . . . τῷ δὲ μηδὲν ἔαυτῷ ἀδικον ξυνειδότι ήδεῖα ἐπὶς
αἱ πάρεστι καὶ ἀγαθὴ γηρότροφος.

Schlaf und Traum. Eine physiologisch-psychologische Untersuchung.
Von PAUL RADESTOCK. Leipzig: Breitkopf und Härtel, 1879.
Pp. x. and 330.

The subject of dreaming, though an important one in many respects for psychological theory, is apt to be scantily dealt with in systematic treatises on psychology. Even a writer like Wundt who, in his work on Physiological Psychology, devotes a special section to dreams in connexion with hallucinations, is not able to do justice to the theme. The fact is that the state of dreaming, together with its physical conditions, is a matter of such great intricacy and speciality that it calls for distinct treatment. Just as the pathological phenomena of hallucinations are best discussed apart from the normal processes of mind, so the facts of dreaming, which form an intermediate link between the normal and permanently abnormal activities of mind, need to be handled separately. Hence the publication of a comprehensive volume on the subject of sleep and dreams, like that of Herr Radestock, is a step in the right direction. This is not, of course, the first monograph on the theme. The rapid progress, however, of psychological and physiological research during the last few years quite justifies the attempt to reconsider the whole subject from our present standpoint of knowledge. It must be added that, in so far as this volume aims at a full systematic presentation of the various theories of dreaming, it hardly has any predecessors to compete with.

The author appears to be a disciple of Wundt, and his psychological treatment of dreams follows closely on the lines laid down by that writer. That is to say, the images of sleep are regarded as peculiar combinations of mental states, illustrating the same laws of association and reproduction as other combinations, and owing their peculiarities to the special physiological circumstances of the sleeping condition. Hence our author studies dreams in close connexion with the whole subject of sleep. Over and above this, he gives us studies on the practical aspects of dreaming as affecting the tone of mind, as giving rise to religious hopes, and so on. Thus we have the subject viewed from every side. In truth it must be said that the work suffers from an excess of fulness. The writer has not always compelled himself to exclude interesting matter, more or less closely connected with his subject, in obedience to a strict scientific purpose.

The treatise begins with a chapter on the importance of sleep, and the significance of dreaming in the mental history of individuals and peoples. This is a very miscellaneous section, and discusses among other things the effect of half-forgotten dreams on our emotional life, our sympathies and antipathies, and, more fully, the important functions fulfilled by dreams in primitive culture. On this last head the author draws largely from Mr. Tylor, though he seems to be unacquainted with Mr. Spencer's cognate theories of primitive superstition. This side of the subject is handled with an unnecessary fulness of illustration, and there is a manifest tendency here and there to wander into the whole territory of primitive belief and custom.

Chapter II. treats of dreams as made use of by the poet and as conceived by the philosopher—an odd juxtaposition. One might wish that in place of these first two chapters, Herr Radestock had given us a succinct account of the historical development of dream-interpretation and theory.

Chapter III. brings us to the psychological prolegomena of the subject, by taking up the laws of the normal and abnormal reproduction of presentations. The principles of association, the processes of the agglutination or fusion of impressions, and the various forms of abnormal mental combination, are here gone over. One bold suggestion in this chapter deserves to be recorded here. In calling attention to the fact that the element of illusion penetrates deeply into our normal mental life, Herr Radestock observes: "Every scientific hypothesis properly rests on illusion, in as much as here also the objective factor is controlled by a subjective, and has its content determined in a manner answering to no external element." Our author might have carried the elucidation of the far-reaching influence of illusion further than this. A complete discussion of it would require one to touch on the belief in single objects, and in an external world independent of mind.

Having thus laid down the general psychological principles which underlie his subject, our author proceeds, in Chapter IV., to the special treatment of dream-phenomena, and approaches these by an interesting discussion of the causes and characteristic features of sleep. The circumstances which promote and hinder sleep are here carefully reviewed. According to Herr Radestock, who adopts the views of Burdach, sleep is not distinguished from waking as the period of high vegetal as contrasted with animal life. It is true that the lower group of functions are in the ascendant inasmuch as they are less controlled by the higher animal activities, and are more equally balanced one with another; but at the same time these lower activities are themselves greatly depressed during sleep. As with respect to the bodily, so with respect to the mental life, sleep is not to be too sharply contrasted with the waking state. Most psychical activities are simply lowered, not wholly suspended during sleep, and thus dreaming differs from waking consciousness, simply in the general depression of mental processes and in an alteration of the proportions of the several psychical activities. The periodic physiological changes which characterise sleep are in fact viewed by Herr Radestock as a part of a never-ceasing recurring cycle of changes extending through day and night. The author here assembles a number of curious physiological facts as to the variations under normal circumstances in the rate of activity of the several organic functions during successive periods of the day and of the night. There is a series of changes in the psychical life exactly parallel to those of the physical. In the case of each the point of maximum activity or culmination-point is said to be reached soon after noon, the point of minimum activity is attained about an hour after falling asleep, or about midnight. This fact of the nocturnal fall and rise of the energies of the organism is applied to the explanation of the characteristic differ-

ences of the dreams of the early night and of the morning. The question whether sleep is ever perfectly dreamless is very carefully discussed. The author inclines to the view that in the deepest sleep the psychical activities, like the physical, are merely reduced to a minimum point without being wholly suspended.

In the remaining sections of the work (Chap. V. to Chap. X.), the writer gives us a psychology of dreams. He here treats of the elements which compose dreams, of their various kinds, of their relations to waking consciousness on the one hand and to the mental condition of the insane on the other hand. Throughout these chapters the author shows himself not only well versed in the literature of his subject, but also practised in careful independent observation. His psychological penetration, moreover, displays itself in a number of suggestive remarks. Herr Radestock does not profess to give us a new theory of dreams in this volume. He contents himself with accepting the best explanations of contemporary psychologists and physiologists. More particularly he adopts the principles laid down in Wundt's work, and seeks to follow these out more fully to their consequences. The causes of dream-imagery in present sensory stimulations, objective and subjective, motor excitations and the play of association, and more especially the action of subtle links of similarity and the influence of feelings of pleasure and pain in determining the sequence of ideas, are here set forth with great wealth of illustration. The author does good service to the cause of sober science by protesting now and again against the fanciful, not to say mystical, doctrines of Scherner and others. Here is an opportune remark *à propos* of the influence of feelings of digestion on our dreams : "We must not however suppose, with Scherner, that in dreams thus caused the whole intestinal system is symbolised under the form of broad and at times very dirty streets of a town, and then narrower village streets. In those cases in which the stimuli of the organism and the systemic sensations arising from these are weak, the line of association is determined not by the content of the ideas, but by the tone of feeling. There arise images, the contents of which answer to the tone of feeling of the impressions of the moment." When the organic feeling calls up an idea by reason of its particular local character, as when the sensation of pressure in the bladder suggests the image of water, we are not to assume, with Scherner and Volkelt, that our dream-fancy directly intuited the locality of the stimulus. What we have in this case is a vague feeling of the bladder and its contents, which, though too weak to rise itself into distinct consciousness, serves as a subordinate link in the chain of ideas. Herr Radestock similarly places himself on the ground of positive fact, when he argues that there is no sharp antithesis or relation of polarity between waking and sleeping consciousness, such as would be formed by the total absence in dreams of our ordinary ideas of the relations of time, space, and cause. The great determining circumstance in the case of dreams is the fact of the reduction of attention to the minimum point of intensity, owing to which the numerous associative forces have uncontrolled play, and images

follow one another, and blend in the most picturesque confusion. Herr Radestock again opposes himself to the so-called philosophical, but essentially mythical, mode of regarding dreams when he comes to treat of their "prophetic" side. Thus, for example, he suggests that the many cases of a foreboding of a friend's death may be explained by natural causes. A letter perhaps, or some stray thought, reminds a person of the weak constitution of his friend, and thus there commences the sequence of ideas which leads up to the anticipation of death. And "if the distance between them is not too great, it is possible that at times the same meteorological and other influences which occasion an anxious dream to the one, may bring death to his sick friend".

The general results of Herr Radestock's volume are summed up in three propositions: (a) The psychical and physical processes always run parallel to one another, and this parallelism is seen in the dreams alike of the healthy and the diseased. (b) The normal and abnormal mental activities present no qualitative, but only quantitative differences. Thus "waking consciousness passes by many single but connected and inseparable gradations into sleeping consciousness and dreaming, and in like manner no sharp boundary is to be found between healthy and diseased conditions of the mind". (c) Finally, the different conditions run one into another, so that we find something like waking in sleep, dreaming in waking, flashes of intellectual insight in insanity, and touches of insanity (hallucination) in a healthy condition of mind. On the other hand, the ideas of the one mental condition exert an influence on the succeeding condition, as far as the physiological circumstances permit, so that there is a reciprocal action between waking and sleeping, and between mental health and mental disease. Thus the effect of Herr Radestock's separate and exhaustive treatment of the subject of dreams is to connect these more closely with the phenomena of waking consciousness, and so to incorporate the theory of dreaming in the main body of psychological doctrine.

JAMES SULLY.

Proeve van eene Geschiedenis van de Leer der Aangeboren Begrippen.
Door Dr. C. B. SPRUYT. Leyden, 1879. Pp. 357.

The Trustees of the Stolpian Fund--mentioned in my late account of Philosophy in the Dutch Universities (MIND IX.)--have done particularly good service to philosophical readers of our language in publishing Dr. Spruyt's prize-essay on the Doctrine of Innate Ideas. As a graduate in natural science, this writer takes an interest in the subject apart from its bearing upon our everlasting religious differences, and by his close criticism and lucid exposition fully justifies his recent appointment to the chair of Philosophy in the new University of Amsterdam.

Holding that the ethical belief of the future, and consequently the fate of European civilisation, depends on the issue between sensationalism and the acknowledgment of an *a priori* element in all human

thought, Dr. Spruyt takes a higher ground than the wording of the Trustees' question might seem to demand. The dispute about "innate ideas" carried on in the 17th and 18th centuries becomes a mere incident in the controversy of many generations touching the nature of knowledge.

Plato's ideas, conceived by him as the true realities, had been converted by his later admirers into thoughts that reside in a Divine Mind.¹ Hence St. Augustine's doctrine of ideas contained in a Universal Truth or Reason. This was mixed up by the Schoolmen, especially Thomas Aquinas, with reminiscences from Aristotle concerning an intelligence of first principles, as a natural *habitus* of our mind which is brought into play only on occasion of sense-perceptions. The existence of such principles, or first and immediate truths, is assumed in some sense or other as soon as we grant the possibility of demonstrative science; but in the hands of the Schoolmen they attained the dignity of the highest laws to which all forms of being in itself are subject. Now when Descartes, in his *Meditations*, *Answers to Objections*, and *Notes against Regius*, mentioned "innate ideas," he understood those laws as pourtrayed in our minds through a natural faculty. His opponents, misled by the sound of words, harped either on "ideas" in their original acceptance as existent outside the human mind, or on "innate" in its proper sense² of actually present even in the new-born infant, and so obtained easy triumphs over an hypothesis which no one had ever undertaken to defend.

There was a deeper current of philosophical thought running under those verbal bickerings. Dr. Spruyt thinks it was Christianity that displaced the centre of human interest from the world around us and mankind as part of it, to the inner self and the individual life. Others indeed might ask whether it was not rather a gradual displacement of that sort, brought about by previous agencies, and traceable from pre-Socratic times downwards, that was needed to prepare the way for an interest in the teachings of the Gospel. At all events the problem of the origin of our convictions derived a fresh importance from its connexion with the questions of theology, the more so at a time when modern Europe felt compelled to give up its allegiance to mediaeval authorities. Of more weight than Descartes' expression of "innate ideas" are his occasional remarks about our representations of things being called forth by outward impressions, but produced from the mind itself. Besides these, he drew a distinction between intuitive and pure thinking, which his followers, less gifted but more intent on metaphysics than their master, straightway combined with the old scholastic one between a lower and a higher part of the

¹ As a help towards the understanding of this conversion of meaning, one might point to Aristotle's identification of *νοήσις* (the so-called *ν. πονητικός De An.* III. 5) with *νοητόν*, *Metaph.* A. 7.

² Friar Bacon, in his *Specula Mathematica* I. 3, employed the word with some caution: *Mathematicarum rerum cognitio est quasi nobis innata* (Eucken, *Grundbegriffe der Gegenwart*, p. 73). But Lucretius (II. 286) had already mentioned the *innata potestas* of self-determination.

soul, the latter being concerned with a supra-sensual world—the province of mathematics, metaphysics, and ethics. The influence of Malebranche made them all accept universal and necessary truths; and the unprofitable "innate ideas" might have quietly died away but for their adoption by the once popular *Logique de Port Royal*, which made it advisable for Locke to disprove them at great length.

Locke's principal achievement consisted in disclaiming the confidence of all previous thinkers in the absolute correspondence between our conceptions of being and being in itself.¹ His empiricism did not prevent his allowing "general and certain truths," and notions like those of substance, power and cause, without which we could never construct a body of knowledge. But then it forbade him to found those truths upon anything but the habitudes and relations of our own ideas; nor did it enable him to give a satisfactory account of the origin of those notions. Henceforward, mathematics, ethics, even theology, could only by courtesy be accepted as genuine knowledge of anything outside our states of consciousness, and Locke himself was led to "suspect that natural philosophy is not capable of being made a science" in the usual sense of the word.

Passing by Condillac and his feeble attempt to reduce Locke's "reflection" to mere transformed "sensation," Dr. Spruyt observes that the French author receives undue credit for his improved theory of vision, which he took most probably from Berkeley.

The same inconsistencies that made the doctrine of Locke resemble in more than one respect the Cartesian views, lessened its obvious distance from those developed in Leibnitz's *Nouveaux Essais*. The one material point of dissent is the assumption of "unconscious perception," which Leibnitz borrowed from some of the Cartesian school. It is true that, in his opposition to Locke, he dwells neither on the immanent causation of all perceptions nor on their pre-established harmony, and so contributes on his part towards an appearance of general agreement with the English philosopher.

In later days, both Sensationalism and its opposite entered a new stage of development owing to the researches of Hume and those of Kant. The former, whose able work in this department came to an untimely end, deserves his philosophical fame by his determined adoption of the consequences of Locke's sensationalistic and nominalistic principles. Supposing the "universal and necessary truths" to regard merely the agreement or disagreement of our own ideas, how can our connected knowledge have any legitimate reference to extra-mental existence? But Hume, while thus throwing grave doubt

¹ In the notes to my lecture on Spinoza (Leyden, 1877) I have called attention to the doctrine of our own Geulinex (died 1669), as quoted by Dr. Ed. Grimm (*Arnold G.'s Erkenntnisslehre, etc.*, Jena, 1875, p. 66), from his extremely rare treatise on Metaphysics: "To conceive things in the forms of thought is a necessity unavoidable even to the wisest; but from the judgment which attributes those forms to things in themselves, a wise man is certainly able to abstain; and this after all will be found to be the true wisdom."

on the validity of all ideas that go beyond a simple recalling of received impressions, never remarked that some of those impressions, to wit, all that contain a reference to objects of any kind, already imply, as we become aware of them, such notions of identity, substance, etc., as he would fain avoid, because he could neither justify nor account for them on the ground he had taken. It was Kant who proceeded to analyse experience itself, and found it to contain elements provided by the mind in applying its native modes of intuition (those of space and time) and of thought (the categories). As a consequence, he could no longer identify "objects" with "things-in-themselves," but must hold the former to be "what is represented in constant accordance with experience". Nor could formal logic, mathematics, and the most general principles of physics afford any insight except into those universal and necessary forms of our mental conception. There is no denying that Kant himself fell back into traditional errors by applying the notion of causality to the relation between our sensations and things-in-themselves—therewith affording a pretext for the revival of dogmatism in Fichte and his successors—and by supporting unconditional moral obligation on a two-fold production of our actions, in our double capacity as belonging to a phenomenal and a noumenal world. This cloudy hypothesis would hardly have been put forward if Kant had only seen that determinism is as compatible with a standard of morality to be upheld in our behaviour as with a standard of bodily welfare to direct our sanitary measures.

Reid and his followers attempted to parry Hume's argument, that experience did not warrant the indispensable suppositions of science, by pointing to the fact of their indispensability, which Hume never meant to call in question. Their mistake was pointed out by Kant, but they were right in maintaining that judgment is concerned with some object, not merely with an agreement of ideas; that perception is something different from sensation, and belief not the same with vividness and permanence of ideas; also, that even in infants and animals there are traces of a mind not simply the recipient of outward influences. Yet the "object" retained with them its traditional character of independent existence, nor could all their deprecating and ridiculing avail against the Humian scruples. Thos. Brown, though a much more original thinker than many suppose, unsuspectingly made his subtle and valuable investigations of the natural history of our mental phenomena do duty for a theory of knowledge, which, as he might have learned from Hume, deals with quite a different problem. His psychological theory of our intuition of a world in space is probably the best attainable on sensationalistic grounds, and therefore adopted by eminent writers of the same school even in our own days; but Dr. Spruyt shows it to be incapable even to explain the step from sensation to perception.

In the late J. S. Mill there appears a realistic element, fairly conspicuous in his remarks on classification, where he confesses to a belief in natural kinds. However, the results of his early education stood in

the way of his working out a theory on such a basis, and kept him mainly in the groove of his sensationalist predecessors. In fathoming all universal judgments upon induction, he could not admit an exception in favour even of mathematical truths; and it would have been of great interest to see him answer the arguments of Kant, if he had not unfortunately chosen to discuss the parody upon them set forth by Whewell. He succeeded in establishing that the apparent inconceivability of the contrary is not always to be taken as sufficient proof—only he took it as such himself in the case of the fundamental laws of thought. He would account for the reliability of mathematical truth from our knowing by experience "that the properties of the reality are faithfully represented in the image"—a knowledge which it is not in the power of experience to provide. Here Dr. Spruyt enters deeply into the subject of Non-Euclidean geometry, as discussed in this journal,¹ adding to the arguments put forward by the present writer some others suggested by his professional study of physics and mathematics. A physical geometry, as conceived in the second article of Dr. Helmholtz, he shows to be at the best but an approximate verification of the exact demonstrations supplied by geometry proper. He would explain the universal and necessary character of algebra from its continuity, not with the laws of thought, but with those of spatial intuition, a thesis which many will desire to see developed some day in its relation to the inquiries of writers like Boole and Robert Grassmann. Still he doubts not but there remains some connexion to be discovered between the laws of both orders.

As the last representative thinker on his list, Dr. Spruyt takes Mr. Spencer, whom many believe to have incorporated both empiricism and its rival in an improved theory. That philosophy is but "knowledge of the highest generalities" he cannot admit, since in all ages philosophy arose from a desire of something more than any empirical data, however bound up in a system, can yield us—a desire which also lies at the root of religion, morality, and art. Besides, it is not given to a human being to grasp the true import of the highest generalities even of one single science before he has mastered a host of details by half a lifetime of incessant application. Comte in a measure avoided the difficulty by keeping to the discussion of methods, with which one need not utterly despair of becoming sufficiently familiar. What are given in Mr. Spencer's treatises as general laws, are little else than remote analogies and verbal coincidences between disparate truths. The famous doctrine of Evolution, admirable as an instrument of scientific research in certain directions, is found wanting in the logical requirements of a lasting theory. In psychology there are contrived the most ingenious devices for escaping the recognition of an ego as a distinct ordering principle, and making a community of vivid and faint manifestations order itself in our consciousness according to its own laws. For the subject and object there are substituted the

¹ The remarks on pages 553-5 in MIND XII. appear not to have reached him in time for quotation.

human individual and the world around it. The "law of intelligence" proclaimed is anything but an improvement upon the laws of association of older British psychologists, owing to the self-imposed task of explaining psychical states as the wrong sides of states of the nervous tissue. And even if we limit that law to the case of a fully developed understanding, there remains the question how to account for a harmony between successions in consciousness and successions in the outer world. Mr. Spencer on this point is aware of only two possible hypotheses : that of pre-established harmony, which he rejects because unwarranted by the facts, and that of a tendency towards association of psychical states, growing out of experience not only in the individual but in a succession of generations. By his powerful vindication of psychical heredity, Mr. Spencer assuredly does away with the *tabula rasa* and the omnipotence of education ; only we must remember that there is a hereditary predisposition not only to the better intelligence of certain truths but to the adoption of certain prejudices as well. Nor does his theory succeed any better than the older forms of sensationalism, in making out how we are brought to distinguish between truth and error, to gain convictions, to believe that we possess knowledge and science. It takes no account of a third hypothesis, that of Kant, according to which the "objects" are themselves formed under the influence of our native forms of intuition and of thought. Whatever may be the merits of evolutionism in psychological science, it really leaves untouched the philosophical, or say transcendental, questions concerning the nature of knowledge. In treating these, experience and the world that it holds up to us are not things that may be taken for granted, but things that we have to examine critically as to their significance. There was something after all in the "innate ideas" of an age long past. They bore witness in their way to the specific operations of the mind, which, not content with taking notice of the concatenation of phenomena, separates reality from appearance, beauty from malformation, and good from evil.

J. P. N. LAND.

VIII.—NEW BOOKS.

[*These Notes are not meant to exclude, and sometimes are intentionally preliminary to, Critical Notices of the more important works later on.*]

Lectures and Essays. By the late WILLIAM KINGDON CLIFFORD, F.R.S. Edited by Leslie Stephen and Frederick Pollock, with an Introduction by F. Pollock. 2 vols. London : Macmillan, 1879. Pp. 340, 321.

The Introduction to this collection of the lamented Clifford's non-mathematical lectures and writings includes a bibliographical record of his various productions which has been made as complete as was possible in the circumstances, and, except three lectures on "Seeing and Thinking," which will presently appear in a separate little volume, and

some others not or only imperfectly reported at the time of delivery, everything of importance or of more than passing interest is here reproduced. The collection begins with his first Lecture ("On Some of the Conditions of Mental Development") from the year 1868, and ends with his latest Essay ("Virchow and the Teaching of Science") produced in 1878. Reprinted with almost no change of their chronological order, the various pieces correspond very nearly in subject with a scheme of topics which the Editors have found drawn out in Clifford's hand as a sketch of the contents of a comprehensive work to be entitled "The Creed of Science". It is some satisfaction to have in these *Lectures and Essays*, however fragmentary they must now remain, so fairly-balanced a representation of his whole thought as it would, with longer life, have been systematically set forth. Here is the scheme of main topics with the sub-headings appended.

"THE CREED OF SCIENCE. I. What we ought to believe (The duty of inquiry and the sin of credulity—The weight of authority—The nature of inference—Is the order of the universe exact?—Is the order reasonable?). II. What is Science? (Conceptions and beliefs—Knowledge the guide of action—My knowledge and our knowledge, or what is truth?—Truth for its own sake). III. The History of the Sun (The Sun's present work—The evolution of the Earth's crust and evolution of life—The age of the Earth—The formation of the solar system). IV. Atoms (The molecular hypothesis—How far we know that it is true—What we do not know—The nature of the evidence for a [?] hypothesis). V. Ether (Light is a change of state periodic in time and space—Radiant heat (same thing) has energy, and therefore is motion of matter—Whatever motion is periodically reversed in light is continuous round an electric current—Difficulties). VI. The Beginning and the End (Are molecules eternal? Thomson's hypothesis—The argument from dissipation—The limits of knowledge). VII. Body and Mind (The atomism of the nervous system—The atomism of mind—The parallelism of the two—The great gulf fixed between them). VIII. The Unseen Reality (There is no matter without something like mind behind it—All matter is a part of our minds—The material universe is a picture of something which is like mind—How far is it a true picture?). IX. God and the Soul (Will and intelligence imply a certain organisation of matter—No will and intelligence except those of man and animals has worked in the solar system—The consciousness of man breaks up at the same time with his brain—Nature is uniform in human action). X. Right and Wrong (The facts of the moral sense—The theory of responsibility—The foundation of absolute morality—Piety and Truth)."

Besides selections from Clifford's correspondence, &c., Mr. Pollock gives in the Introduction an exquisite sketch of his friend's life and character.

Studies in Philosophy and Literature. By WILLIAM KNIGHT, LL.D., Professor of Moral Philosophy in the University of St. Andrews. London: Kegan Paul, 1879. Pp. 426.

Of the twelve Essays or Lectures here republished in a revised form, six are more especially philosophical—"Ethical Philosophy and Evolution," "Eclecticism," "Personality and the Infinite," "The Doctrine of Metempsychosis," "Desiderata in the Theistic Argument," "The

Summum Bonum: a Discussion on Culture. With reference to the first and third of these, the author in a few pages of Preface seeks to define anew his position in relation to the theory of Evolution. He does not deny the evolution of intellectual and moral ideas, but only that their evolution can explain their origin : " Every valid theory of derivation must start with the assumption of a derivative Source, or it performs the feat of educating something out of nothing, nay of developing everything out of nonentity ". " Evolution pure and simple is *process* pure and simple, with no product, with nothing definite emerging, and with nothing real or essential underneath. . . . If noumena exist, if there be a substantial world within the ego—or within the cosmos beyond the ego—a doctrine of phenomenal evolution is neither the first nor the last word of philosophy, but only a secondary and intermediate one."

Antitheistic Theories. Being the Baird Lecture for 1877. By ROBERT FLINT, D.D., LL.D., Professor of Divinity in the University of Edinburgh. Edinburgh and London: Blackwood, 1879. Pp. 555.

This volume and the author's *Theism* (1877) may, he says, be regarded as two parts of a system of Natural Theology which is still very far from complete. The subjects of the present volume are Atheism—Materialism, Ancient, Modern, Contemporary or Scientific—Positivism—Secularism—Are there Tribes of Atheists?—Pessimism—History of Pantheism—Pantheism. On all these subjects, the author supplements his critical discussion in the text by an appendix of Notes (pp. 441-555), displaying the extraordinary erudition which is usual with him. The chief omission relates to Agnosticism, and this he explains as due to his wish to avoid, in a semi-popular work, abstruse metaphysical discussion ; but he adds that he " has long cherished the hope of being able, at some future time, to publish a historical account and critical examination of the various phases of modern Agnosticism".

Education, its Principles and Practice as developed by GEORGE COMBE, Author of "The Constitution of Man". Collected and Edited by WILLIAM JOLLY, H.M. Inspector of Schools. London : Macmillan, 1879. Pp. lxxvi. 772.

" The present work is the first attempt to exhibit George Combe's contributions to education in a collective and systematic form. It has been deemed better, instead of merely reprinting the numerous pamphlets as they appeared, to classify the whole of the educational utterances scattered throughout his extensive works. . . . The chief work of the Editor, in addition to the selection and classification, has been to supply all notes required for the understanding of what was so much a part of the educational struggles of the day ; to explain the continual references to a special technical philosophy ; and to exhibit George Combe's connexion with the various movements that characterised the educational revival which began with the present century, and in which he took a most prominent part." Beside estimating the character and value of Combe's efforts, the Editor has also sought to make the book "more or less a work of reference on the topics

treated of by him, which will be found to include almost all the questions now happily claiming professional and public attention ; by bringing down the account of these to the present day ; by giving full references to other workers and books on the same subjects by supplying explanations and illustrations of the text in the Appendix (pp. 657-735) and elsewhere ; and by adding an analytical Index " (736-72).

Notes on Mill's "Examination of Hamilton's Philosophy". By THOMAS EDWARDS, F.E.I.S., Doveton College, Calcutta. Calcutta: Thacker, Spink & Co.; London, Thacker & Co., 1878. Pp. 78.

"The greater part of the following pages were written during the life-time of the late J. S. Mill, and were laid aside at his death. I make no apology for printing them now, nor for the manner in which I have dealt with the opinions and criticism of J. S. Mill. I believe that Hamilton has been attacked most unjustly ; and that his critic exhibits in almost every page of his *Examination* a total misapprehension of Hamilton's doctrines. I have dealt briefly with the three leading doctrines—The Unconditioned, The Relativity of Knowledge, and The Synthesis of Belief and Knowledge in Cognition."

Darwinism and other Essays. By JOHN FISKE. London : Macmillan, 1879. Pp. 283.

This is a volume of collected reprints from various American periodicals, chiefly on more or less philosophical subjects. It contains twelve Essays. The first, on "Darwinism Verified," attempts to show that subsequent research has brought to light numerous facts which are exactly in accordance with what the theory in question would lead us to expect, and which may therefore be held as verifications. The next three papers are short reviews of Stewart's *Lessons from Nature*, Büchner's *Man in the Past, Present, and Future*, and Bateman's *Darwinism tested by Language*. The fifth "A Crumb for the Modern Symposium," contains a critique of Mr. F. Harrison's and Prof. Huxley's views on the soul and future life, and gives the author's own opinion on the subject—namely, that "the relation of concomitance between" mental and physical phenomena "remains an ultimate and insoluble mystery". The sixth is a review of Chauncey Wright's *Philosophical Discussions*, together with some interesting reminiscences of Mr. Wright's personality. The seventh answers the question, "What is Inspiration ?" substantially from the point of view taken by Mr. Tylor. The eighth deals with Dr. Hammond's work on *Spiritualism and Allied Causes and Conditions of Nervous Derangement*. The ninth and tenth are taken up with Mr. Buckle, the former consisting of a youthful article on the *History of Civilisation*, the latter a more mature notice à propos of Mr. Stuart Glennie's *Pilgrim Memories*. The eleventh is an ethnological discussion on "The Races of the Danube," and the twelfth gives an account of "A Librarian's Work".

Psychological and Ethical Definitions on a Physiological Basis. By CHARLES BRAY. London : Trübner, 1879. Pp. 58.

A disconnected exposition of the author's opinions on some of the main topics of psychology and ethics, and called Definitions.

Histoire de la Philosophie. Par ALFRED FOUILLÉE, Maître de Conférences à l'École Normale Supérieure. Nouvelle Édition. Paris : Delagrave, 1879. Pp. xvii., 554.

This compendious work begins with a rapid survey (29 pp.) of the philosophy of the various ancient peoples, Indians, Persians, Chinese, Hebrews, &c.; then develops Greek philosophy, including the thought of the Christian Fathers, at considerable length (166 pp.); deals briefly with the Middle Age and the Renascence (30 pp.); and enlarges upon modern philosophy from Bruno and Bacon to the present day (pp. 265). In the Introduction the author states his view of the method to be followed in the History of Philosophy—a method of "conciliation". The historian has first to understand and then to appreciate. To understand, he must put himself at the point of view of others, not at his own, enter into their thought more deeply (if possible) than they do themselves, carry it out farther to discover its direction, fix on the spirit as well as the letter, on the higher rather than the lower parts, the truths rather than the errors, of the various systems. In the work of appreciation, the errors have to be corrected, the truths reconciled. First, the errors of conclusion are to be rectified by means of the principles of the systems. If then the system, when thus perfected, is insufficient for the explanation of reality, there must be error in the principle—error that consists in taking an incomplete and partial truth for the whole truth; and the way to correct this is to complete each system by that other towards which it is borne by its inner tendency. Thus is effected a progressive reconciliation of philosophical doctrines in their positive parts and a reduction of them all to the unity of one larger doctrine. This method is meant to be different both from that of Eclecticism, with its more or less arbitrary selections from different systems, and from the Hegelian method "which ends by regarding error itself as an essential part of the truth, through its identification of contradictories". At the end of his work, the author finds that all recent thinkers agree that the being of things, however differing in development, is one at bottom, and that this ground of all existence must be action; but as to the true nature of this action they divide into the rival schools of Necessity and Liberty. He has then to suggest, as he has elsewhere maintained, that this antithesis may be reduced by forming an idea of moral liberty that is compatible with the determinism of nature; and that when liberty is so understood—not as a liberty of indifference but as a power of indefinite development whose essence consists "dans le pouvoir de se désinteresser et d'aimer"—the antithesis, if it cannot in the present state of knowledge be resolved theoretically, must practically be resolved in favour of the doctrine of Liberty, as alone consistent with the moral ideal. It should be added that the author throughout his exposition takes account also of the development of social and political philosophy, and the *Histoire* is meant to have its complement in his other volume, *Extraits des grandes Philosophes*, containing, with biographies of the chief thinkers, the most important and interesting parts of their works.

Emanuele Kant. Per CARLO CANTONI, Professore di Filosofia all' Universita di Pavia. Volume Primo : 'La Filosofia Teoretica'. Milano : Gaetano Brigola, 1879. Pp. 532.

Prof. Cantoni attempts here the first systematic exposition in Italian of the whole of Kant's philosophy. The present volume covers the theoretic philosophy, the lengthy exposition of the *Critique of Pure Reason* being led up to by a survey of Kant's predecessors and of his pre-critical thought, and supplemented by an account of the *Metaphysic of Nature*. The second volume will complete the work, dealing with the *Critique of Judgment*, and the various Ethical writings, also with Kant's philosophy of law and politics, religion and history, and the *Anthropology*. The author, in his Preface, after sketching shortly the fortunes of Kant's philosophy in Germany ending in the great Neo-Kantian movement of the present generation, reviews the state of philosophical thought in Italy and shows the special need of the Italian mind for such *critical* enlightenment as the present work is designed to afford. The Idealists (as led successively by Rosmini, Gioberti, and Mamiani), the Thomists (most numerous of all, because in Italy it is still the clergy that are most given to speculative studies), the Positivists (few but active and demonstrative), and even the section of Hegelians, must all go to school with Kant and assimilate his whole doctrine before they can enter into the proper movement of modern thought.

Sull' Educazione dei Figli del Popolo nella Scuola pubblica. Studii di GIUSEPPE DESCOURS DI TOURNOY. Napoli : Morano, 1879. Pp. vi. 181.

In these Studies the author discusses various educational questions that have a more or less general reference though mainly related to the special circumstances of Italy. He defines education as the process of bringing to perfection the physical, moral and intellectual faculties of our nature, and looks to physiology and psychology as the ultimate sources of the laws and maxims by which it ought to be regulated. Emphasis is laid on the importance to a rational system of education of the study of the growth of thought and feeling in very young children. The observations and speculations of Darwin, Taine and others in this direction are commented upon and supplemented by some original matter.

Kant's Urtheile über Berkeley. Ein Beitrag zur Kantphilologie von JULIUS JANITSCH. Strassburg i. Els. : Astmann, 1879. Pp. 57.

The author, seeing that Kant's perverted view of Berkeley's doctrine, though often shown to involve a misunderstanding of it, continues to be reproduced in German philosophical literature, has sought to investigate, once for all, the question of the extent and nature of Kant's knowledge of his fancied opponent. He finds that this knowledge was entirely second-hand and superficial of its kind.

Der Wille, die Lebensgrundmacht. Von ROBERT SCHELLWIEN. Erster Theil: 'Der Wille, die Quelle des Bewusstseins'. Berlin: Müller, 1879. Pp. 339.

The author here proceeds to build a theory of Being and Consciousness on the foundation laid in his earlier work *Das Gesetz der Causalität in der Natur* (MIND V., p. 134), where he reached the conclusion that consciousness is but a higher function of that which appears as nature-process. While Being and Consciousness coincide in subjective consciousness, it is not so in objective consciousness, where we have knowledge of Being that *is* apart from our knowing it; and the question is how we come by such a knowledge. The solution is wholly illusory which would explain it by a leap outside of subjective consciousness, by any kind of revelation, or so forth. There is, the author contends, but one way of avoiding scepticism or the doubt of all objective truth, namely, to seek for a like certainty in objective as in subjective truth by resolving that into this—by seeing Object as an *act of Subject*. Will is to him, as to Schopenhauer, the first and most primitive attribute of substance, but, unlike Schopenhauer, he knows of no will without consciousness. Consciousness is "will put forth, the being of substance unfolded by self-movement". In the unconscious stirrings of individuals he can see only modifications of conscious will that "are laden with the negative moment of relation outwards and of determination from without".

On Mr. Spencer's Formula of Evolution as an exhaustive Statement of the Changes of the Universe, followed by a Resumé of the most important Criticisms of Mr. Spencer's *First Principles*. By MALCOLM GUTHRIE. London: Trübner & Co., 1879. Pp. 260.

"This forthcoming 'study' of Mr. Spencer's *First Principles* is submitted to the attention of those who wish to master the main arguments and thoroughly to understand the method of this work. The plan pursued is first to find out what Mr. Spencer understands as the fundamental problem of philosophy, next to ascertain his solution of the problem, and finally to criticise that proposed solution. The writer comes to the conclusion that Mr. Spencer fails in his undertaking. There is appended a resumé of criticisms and notices by Birks, Fiske, Martineau, Tyndall, Clifford, Moulton, Lewes, Sully, Bowne, and Green."

On the Philosophy of Kant (Shaw Fellowship Lectures, 1879). By ROBERT ADAMSON, M.A., Professor of Logic, Owens College, Manchester. Edinburgh: Douglas, 1879. Pp. iv., 261.

"The main object of these *forthcoming* Lectures is (1) to consider the causes and significance of the recent revival of interest in the Kantian philosophy, and (2) to give a statement of Kant's theory of knowledge which shall bring into due prominence its intimate connexion with the metaphysical idea that underlies the three *Critiques*. They therefore contain a brief study of the fundamental elements of the Kantian system, both in themselves and in relation to the chief problems of more recent philosophy. The Lectures, four in number, were delivered in the University of Edinburgh last January. A body of notes and references has been added."

IX.—MISCELLANEOUS.

DEATH has lately been busy among the ranks of German thinkers. The name of Dr. J. U. Wirth, pastor of Winnenden, has disappeared from the cover of the *Zeitschrift für Philosophie u. philosophische Kritik*, where it has so long stood with the names of Profs. Ulrici and L. H. Fichte, and the name of Fichte will now disappear also. Dr. Wirth, the author of several philosophical works of old date, died on the 20th of March. On the 8th of August, the son of the great Fichte closed, at Stuttgart, a busy life of 82 years, having retired from his chair in Tübingen in 1866.

The *Vierteljahrsschrift für wissenschaftliche Philosophie*, the youngest rival of the old *Zeitschrift*, has also lost a co-editor in Dr. C. T. Göring, who died on April 2nd. Göring, who began to teach at Leipsic as late as 1874, was one of the most forward representatives of the "scientific" school, and had produced in 1874-5 the first half of a comprehensive *System der Kritischen Philosophie*. The strain of the attempt to complete the remaining two volumes of his design proved too much for his strength, and he is now dead at the early age of 38.

Prof. Johannes Huber, of Munich, died on the 19th of March, at the age of 49. Readers of MIND have had one of his works, *Die Forschung nach der Materie*, brought before them, in No. XI., p. 389. He played an important part in the Old Catholic movement, and as a thinker was specially concerned about the practical issues of the new speculative conceptions of the present generation.

Lastly, the veteran Hegelian, J. K. F. Rosenkranz, died on the 14th of June, at Königsberg, where he has occupied Kant's chair since 1833. He was born at Magdeburg in 1805, and began to teach at Halle in 1828. Besides the edition of Kant's *Werke*, issued by him in conjunction with F. W. Schubert in 1838-40, these are some of his more important works—*Psychologie oder Wissenschaft vom subjectiven Geiste* (1837), *Leben Hegel's* (1844), *Pädagogik* (1848), *Aesthetik des Hässlichen* (1853), *Diderot's Leben u. Werke* (1866).

PROF. HERMANN ULRICI's declaration in the *Zeitschrift für Philosophie*, &c., lxxii., 2, that "so-called spiritism" is now, by professorial reports of recent signs and wonders in Leipsic, raised to the dignity of a scientific question (see MIND XV., p. 415), has called forth from Prof. Wundt, who was mentioned as having been an eye-witness though not so profoundly impressed by what he saw as his colleague Zöllner and others, a reclamation in the form of an open letter to the distinguished Halle professor (*Der Spiritismus: eine sogenannte wissenschaftliche Frage*, Leip., Engelmann, p. 31). A rejoinder to this has also appeared without delay (H. Ulrici, *Ueber den Spiritismus als wissenschaftliche Frage*, Halle, Pfeffer, pp. 28).

THE REV. J. B. MAYOR has been transferred from the professorship of Classical Literature to fill a newly founded Chair of Moral Philosophy in King's College, London.

THE JOURNAL OF SPECULATIVE PHILOSOPHY.—Vol. XIII. No. 3.
 'Fichte's criticism of Schelling' (tr.). 'Hegel on Dramatic Art' (tr.).
 'Hegel on Jacob Boehme' (tr.). 'Kant's Anthropology' (tr.). 'Hermann Grimm on Raphael and Michael Angelo' (tr.). 'Schelling on History and Jurisprudence' (tr.). Notes and Discussions. Book Notices.

REVUE PHILOSOPHIQUE.—IVme Année. No. 7. A. Fouillée—'La philosophie des idées-forces comme conciliation du naturalisme et de l'idéalisme' (I.). L. Liard—'Théorie de la science et de l'induction d'après Whewell'. A. Baudouin—'Histoire critique de Jules César Vanini' (I.). F. Paulhan—'L'erreur et la sélection' (I.). Analyses et Comptes-rendus. Notices bibliographiques. No. 8. D. Nolen—'Les maîtres de Kant : Newton.' L. Carrau—'Le dualisme de Stuart Mill'. A. Baudouin—'Histoire critique de Vanini' (II.). F. Paulhan—'L'erreur et la sélection' (II.). Analyses et Comptes-rendus. Rev. des Périod. No. 9. E. v. Hartmann—'La philosophie religieuse et le néo-hégélianisme'. A. Baudouin—'Histoire critique de Vanini' (III.). F. Paulhan—'L'erreur et la sélection' (fin). Analyses, &c.

LA CRITIQUE PHILOSOPHIQUE. VIIIIme Année, Nos. 18-32. C. Renouvier—'Les labyrinthes de la métaphysique : Le déterminisme et le libre arbitre' (19); 'Le plus ancien conflit du déterminisme et du libre arbitre' (26); 'Le renouvellement moderne du plus ancien conflit du déterminisme &c.' (30); 'De la caractéristique intellectuelle de l'homme d'après M. W. James' (24, 25, 28, 29); 'Du principe et des vices de la casuistique cléricale' (29). A. Fouillée—'Lettre à M. Renouvier' (22). F. Pillon—'Le principe psychologique de la certitude' (31).

LA FILOSOFIA DELLE SCUOLE ITALIANE.—Vol. XIX. Disp. 3. T. Mamiani—'Della preghiera religiosa e come e quando sia efficace'. L. Ferri—'Il trattato di Ciceroni sui doveri'. F. L. Pullé—'Dei sistemi filosofici dell' India (Al professore Ferri)'. R. Bobba—'La dottrina della libertà secondo Spencer in rapporto colla morale'. Bibliografia, &c.

ZEITSCHRIFT FÜR PHILOSOPHIE, &c.—Bd. LXXV., Heft 1. G. Glogau—'Ueber die psychische Mechanik'. R. Flackenberg—'Ueber den intellektuellen Charakter' (I.). L. Weis—'J. Sengler : eine Skizze seines Lebens und seiner Gottesidee' (II.). Recensionen. Notizen. Bibliographie.

ZEITSCHRIFT FÜR VÖLKERPSYCHOLOGIE U. SPRACHWISSENSCHAFT.—Bd. XI. Heft 2. O. Flügel—'Das Ich im Leben der Völker' (II.). H. Steinthal—'Die ethische Idee der Volkmensheit'. Beurtheilungen.

PHILOSOPHISCHE MONATSHEFTE.—Bd. XV. Hefte 4, 5. Höffding—'Die Philosophie in Schweden'. E. Wille—'Ueber das Nirgendsein der Vorstellungen'. Recensionen u. Anzeigen. Literaturbericht. Bibliographie, &c. Hefte 6, 7. H. Vaibinger—'Eine Blattversetzung in Kant's *Prolegomena*'. M. Wolff—'Die Philonische Ethik'. A. Spir—'Ob eine vierte Dimension des Raumes denkbar ist?'. M. Carrière—'Begriff u. Thatsache des sittlichen Bewusstseins'. Recensionen u. Anzeigen. Bibliographie, &c. Hefte 8. J. Baumann—'Die klassische Moral des Katholizismus'. Rec. u. Anzeig. Bibliog., &c.

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE.—Bd. III. Heft 3. 'Nachruf an C. Göring'. C. Göring—'Ueber den Missbrauch der Mathematik in der Philosophie' (Ein nachgelassener Vortrag). K. Lasswitz—'Ueber Wirbelatome u. stetige Raumfüllung' (Schluss). G. H. Schneider—'Zur Entwicklung der Willensäußerungen im Thierreich' (Schluss). A. Horwicz—'Das Verhältniss der Gefühle zu den Vorstellungen u. die Frage nach dem psychischen Grundprozesse'. W. Wundt—'Psychologische Thatsachen u. Hypothesen' (Reflexionen aus Anlass der Abhandlung von A. Horwicz über das Verhältniss der Gefühle zu den Vorstellungen). Recensionen. Selbstanzeigen, &c.

